Materials Science and Engineering
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The School of Materials Science and Engineering combines science and technology to develop practical solutions to make a difference in a technology enabled society.

Materials Science and Engineering is about developing the very best materials for a range of applications including aerospace, automotive, biomedical and IT-based industries. Ranked as Australia’s #1 materials school, we are connected to industry through a number of partnerships, including those with ANSTO, Boral, BHP, Veritas, Cochlear, CSIRO, Gopalan NRE Minerals, Hitachi, Chemical Limited, OneSteel and Weir Minerals. By working closely with industry, students are guaranteed a study experience which combines research and practical application for real-world challenges.

Undergraduate Studies in Materials Science and Engineering
Materials Science is the underlying science of high-performance materials including metals, ceramics and plastics, electronic materials, nano-materials, composites and biomaterials. Materials scientists are involved in every aspect of technology, ranging from the design of materials for use in integrated circuits and medical implants, through to materials needed for green energy generation.

Specialist degrees:

Bachelor of Engineering (Materials Science and Engineering)
The first year of this program, like the Bachelor of Science, provides a strong foundation in mathematics, chemistry and physics. Second year moves deeper into materials science through courses in fundamental properties and structures of materials, as well as aspects of engineering design, application and selection of materials. In third and fourth year, the study of materials properties and practical evaluation allows greater specialisation through technical and professional electives. Electives vary with the selected study plan and include: Ceramics, Materials Science, Physical Metallurgy or Process Metallurgy. Fourth year students have the opportunity to concentrate on a research project sharpening experimental and analytical skills. The program includes practical hands-on laboratory work and research and design projects. It also includes components of professional communication, management and industrial training.

Bachelor of Engineering (Materials Science and Engineering)/Master of Biomedical Engineering
This degree includes a four year Bachelor of Engineering in Materials Science and a fifth year Master of Biomedical Engineering. It is specifically designed for students who wish to pursue a career in biomedical engineering through the technical base of materials science and engineering.

Bachelor of Engineering (Materials Science and Engineering)/Chemical Engineering
This degree is specifically for students wishing to pursue a career in the related disciplines of materials engineering and chemical engineering, with professional specialisation in both disciplines. It is a new and unique combination of professional qualifications that no other Australian institution currently offers.

Bachelor of Engineering (Materials Science and Engineering)/Commerce
This degree is for potential engineers in the fields of physical metallurgy, materials engineering, ceramic engineering or process metallurgy who want to become skilled in technical management and more aware of economic and social aspects of the engineering profession.

Admissions Details

Program | UAC code | UNSW program code | Length of study | Cut-off
--- | --- | --- | --- | ---
Bachelor of Materials Science and Engineering | 429600 | 3135 | 4 years full-time | ATAR 94.45 IB 31 Or equivalent
Materials Science Engineering/Chemical Engineering | 429630 | 3138 | 5 years full-time | ATAR 91.00 IB 34 Or equivalent
Materials Science Engineering/Commerce | 429620 | 3137 | 5 years full-time | ATAR 91.00 IB 34 Or equivalent
Materials Science Engineering/Engineering | 429610 | 3136 | 5.5 years full-time | ATAR 96.30 IB 38 Or equivalent
Bachelor of Science | 429000 | 3970 | 3 years full-time | ATAR 94.00 IB 31 Or equivalent
Bachelor of Science (Advanced) | 429950 | 3972 | 4 years full-time | ATAR 95.00 IB 37 Or equivalent
Bachelor of Science (International) | 429940 | 3987 | 4 years full-time | ATAR 87.00 IB 35 Or equivalent
Bachelor of Science and Business | 429910 | 3925 | 3 years full-time | ATAR 90.00 IB 35 Or equivalent

Specialist degrees (Cont):

Bachelor of Engineering (Materials Science and Engineering)/Master of Biomedical Engineering
This degree includes a four year Bachelor of Engineering in Materials Science and a fifth year Master of Biomedical Engineering. It is specifically designed for students who wish to pursue a career in biomedical engineering through the technical base of materials science and engineering.

Bachelor of Engineering (Materials Science and Engineering)/Chemical Engineering
This degree is specifically for students wishing to pursue a career in the related disciplines of materials engineering and chemical engineering, with professional specialisation in both disciplines. It is a new and unique combination of professional qualifications that no other Australian institution currently offers.

Bachelor of Engineering (Materials Science and Engineering)/Commerce
This degree is for potential engineers in the fields of physical metallurgy, materials engineering, ceramic engineering or process metallurgy who want to become skilled in technical management and more aware of economic and social aspects of the engineering profession.

Accreditation: These degrees are accredited with the Institute of Engineers Australia.

The Materials Science and Engineering major can be studied within the following degree programs:

Bachelor of Science
This degree program provides the widest range of options for study in more than 20 majors of science, providing flexibility and choice as well as insights into different scientific fields.

Bachelor of Science (Advanced)
The degree program is designed to challenge talented students, providing an early window into the thinking and practice of research. This program differs from the Bachelor of Science by the inclusion of advanced level courses, an Honours year, and options tailored to an individual's aptitude and interests.

Bachelor of Science (International)
The Bachelor of Science (international) degree offers flexibility and choice, with more than 20 fields of study combined with a study exchange to an overseas partner institution. The program comprises a science-based major; a minor in a language; elective subjects that cover cultural studies, international business, development studies and globalisation; and an overseas exchange for 2 sessions at an approved partner university.

Bachelor of Science and Business
The Bachelor of Science and Business degree allows students to follow their passion for science and, at the same time, gain vitally important business knowledge to expand their career options. In addition to completing a science major, students select business courses in marketing, business law and/or management.

Dual Degrees
Dual degrees enable students to combine a Science program with a program from another faculty offering greater flexibility to explore individual interests, expand skill bases and broaden career prospects.

Admissions Details

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Career Opportunities

A degree in Materials Science and Engineering (MSE) can take you anywhere in almost any industry. Graduates of MSE at UNSW will be equipped to work in fundamental scientific research, manufacturing and materials processing, management, quality, safety, the environmental impact of materials and commercialisation of materials technologies.

Studying Material Science and Engineering could lead to a range of professions, including a Sustainable Processing Engineer, Energy and Electronics Engineer, Failure Analysts and Forensic Scientist, Composite Technologist, Materials Scientist, Extractive Metallurgist, Physical Metallurgist or Ceramicist – to name a few.

Our MSE graduates have recently been employed by a wide range of companies and organisations including BHP Billiton, Rio Tinto Aluminium, Cochlear Limited, Boston Consulting Group, Accenture Consulting, Anglo Coal Australia, Boral Bricks and BlueScope Research.

For further information regarding careers within the sphere of Materials Science and Engineering, visit our careers page on: www.materials.unsw.edu.au/future-students/careers

Student Testimonials

"The Materials Science degree is an excellent course that provides students with further knowledge and skills across engineering and science disciplines. It provides a great platform for graduates to continue to work in these fields or even branch out into finance or banking as these industries look to employ graduates from outside the traditional economics and finance areas. I have found it provided me with the technical and educational background to be a success in my chosen fields of pursuit."

Greg Bodkin – Class of 1987
BE (Materials Science and Engineering)  
Senior Vice President Cochlear Limited

"I was drawn to the interdisciplinary possibilities of Materials Science. Bridging science and engineering, the subject matter had a good coverage of both the theory of why and how materials have the properties they do, and practical applications in industry.

Being both a scientist and engineer meant working with a diverse group of students and academics, so I had a fantastic time at UNSW. Many people still ask what we do and are surprised at how relevant our field is to many others; it’s a great conversation starter. In the later years, the close-knit community at MSE really shone through, especially the support we gave each other during our Honours thesis research projects."

Holstein Wong – Class of 2013
BE (Materials Science and Engineering)  
1st Class Honours and University Medal in Ceramic Engineering  
Graduate Engineer – Product Processing, BHP Billiton Mitsubishi Alliance

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