




THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA



FACULTY OF SCIENCE AND INFORMATION TECHNOLOGY

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Committed to providing a range of degree programs that produce creative, adaptable, well-trained graduates with internationally recognised qualifications.

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INDUSTRY INTERACTION

The Faculty of Science and Information Technology maintains strong relationships with industry both in our region and internationally, which is reflected in our undergraduate and postgraduate programs, as well as our research activities.

There are many ways that the Faculty interact with industry and these include:

- program development and reviews
- externally funded scholarships
- research opportunities and activities
- research funding
- student work placements
- development of new start up companies.

These relationships ensure that we continue to provide a range of degree programs and research activities that produce creative, adaptable, well-trained graduates who are fully equipped to participate in the key role that science and information technology plays in our changing environment.

RESEARCH

Our Faculty has a strong commitment to fundamental and applied innovative research with the highest international standards, and supports a broad-based program over a wide range of research activities. Research interests within the Faculty range from laboratory-based experimentation to fieldwork or clinical research operating within and across discipline interfaces.

Within our four Schools we have established international reputations and formed strong, viable research groups and centres. In addition, the Faculty continues to perform strongly in attracting significant external research funding from national competitive grant schemes, and increasing our industry partnerships and links with government agencies, in the Hunter region and beyond through applied research and development collaborations.

The research profile of the Faculty is continually evolving with staff directly and actively involved with a number of research centres and institutes, both across and external to the University namely: ARC Centre of Excellence for Biotechnology and Development (Biological Sciences); ARC Centre of Excellence for Integrative Legume Research (Biological Sciences); Complex Dynamic Systems and Control (Mathematics); Bioinformatics (Mathematics); Centre for Mental Health Studies (Health); Centre for Rural and Remote Mental Health (Health); Centre for Space Physics; and the Centre for Urban and Regional Studies.

The Faculty is a major contributor to five of the University ten Priority Research Centres which are a strategic initiative to focus resources into areas of existing and potential research strength, and promote cross-disciplinary and cross-faculty research. The five related Priority Research Centres are the: Centre for Organic Electronics; Centre for Reproductive Science; Centre for Brain and Mental Health Research; Centre for Energy; and the Centre for Advanced Particle Processing.



DEGREE PROGRAMS

Undergraduate fields of study

Bachelor degrees are offered in the following areas:

- biological sciences
- biotechnology
- chemistry
- communication
- development studies
- earth science
- environmental science and management
- exercise and sports science
- food science and human nutrition
- geography
- information technology
- marine sciences
- mathematics
- natural history illustration
- photonics
- physics
- psychology
- statistics
- sustainable resource management
- visual communication design.

Postgraduate fields of study (all available on-line)

- aviation management
- digital media
- environmental and business management
- environmental management
- information technology
- psychology
- science management.

Research Higher Degrees fields of study

The Faculty offers Masters and PhD programs in the areas of:

- advanced synthetic materials
- applied food and nutrition
- audience and user research
- atmospheric composition and dynamics
- clinical and health psychology
- cognitive neuroscience
- design, information and human communication
- discrete mathematics
- drug design and discovery
- earth and ocean science
- ecosystem health
- environmental and climate change
- financial modelling

- functional analysis
- health informatics
- human experimental and applied dynamics
- medical physics
- molecular structure and detection
- performance measures
- plant science
- reproductive sciences
- sensory and systems neuro science
- space physics
- statistics
- surface and nanoscience
- sustainable use of coasts and catchments
- tectonics and earth resources
- urban and regional studies
- visual information processing
- wildlife biology and management
- wildlife representation.

CONTACT

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FACULTY OF SCIENCE AND INFORMATION TECHNOLOGY

Is a comprehensive and extremely diverse faculty offering a range of degree programs, both at undergraduate and postgraduate levels.

Bringing together expertise in basic and applied sciences, information technology, design, communication and illustration, our degree programs are offered at the Callaghan Campus in Newcastle; the Ourimbah Campus on the Central Coast of New South Wales; and in partnership with international institutions such as PSB, Singapore.

Each year, 180 academic staff and over 100 support staff host and enrich the lives of our student population which is well in excess of 3,000 students. Staff in the Faculty are recognised experts in their field and at the leading edge of research.

The Faculty has four schools responsible for delivering our undergraduate and postgraduate programs. These are the School of Design, Communication and Information Technology, the School of Environmental and Life Sciences, the School of Mathematical and Physical Sciences and the School of Psychology.

The Faculty has a growing international focus, not just in relation to the increase of overseas students choosing to study with us, but through our research and teaching links with South-East Asia, USA and Europe. The development of off-shore, off-campus and on-line programs further enhances our Faculty as a truly global player in the education arena.

Our Faculty is committed to encouraging positive experiences with science and technology in the community. In order to achieve this, we have been proactive in developing the following activities to increase our involvement with the local community: SMART (Science, Mathematics And Real Technology), Experiment Fest, Awards for Academic Excellence in High Schools , and The Science and Engineering Challenge.



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The Faculty provides study and research programs in exciting fields such as the sciences, mathematics, IT, communication and design offered in many modes including on- campus, on-line or off-shore.

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THE SCHOOLS

School of Design, Communication and Information Technology

This School has a major teaching role in the undergraduate and postgraduate study areas of visual design, natural history illustration, communication, information technology, and digital media. The facilities available to our students include full broadcast-quality digital television studio, radio studio equipped with sound recording facilities, post-production video edit suites, audio edit suites and labs equipped with both Apple Macs and PCs. Most courses involve work placement to ensure that students gain invaluable experience and a thorough understanding of their chosen industry.

Research in the School reflects the dynamic, creative and technologically oriented nature of the areas of design, communication, IT and natural history illustration.

Enquiries:

School of Design, Communication & Information Technology

ICT Building
University of Newcastle
Callaghan NSW 2308 Australia

T +61 2 4985 4500
F +61 2 4921 5896
E EnquiryCentre@newcastle.edu.au
www.newcastle.edu.au/school/design-communication-it/

School of Environmental and Life Sciences

Environmental and Life sciences is one of the largest schools in the University, offering the chance to study the following at the undergraduate level:

- biology
- chemistry
- development Studies
- environmental science and management
- geography
- earth sciences
- food science and human nutrition
- sustainable resource management
- exercise and sports science
- marine science.

The school has about 120 research higher degree (RHD) students undertaking original research to gain either a PhD or M.Phil degree. The school also offers postgraduate programs by coursework.

Researchers in the school have gained well respected international reputations and have successfully formed nationally acclaimed Research Centres.

Enquiries:

School of Environmental and Life Sciences

Science Building
The University of Newcastle
Callaghan NSW 2308 Australia

T +61 2 4921 5080
F +61 2 4921 5472
E EnquiryCentre@newcastle.edu.au
www.newcastle.edu.au/school/environmental-and-life-sciences/

School of Mathematics and Physical Sciences

The School of Mathematics and Physical Sciences offers undergraduate and postgraduate degrees specialising in mathematics, physics and statistics. The research undertaken by the staff is internationally acclaimed and covers the areas of surface physics, space physics, nanoscience, functional analysis, statistical and financial modelling and quality management. The School is actively involved in a range of outreach activities including the highly successful Science and Engineering Challenge and the SMART program. The School's goal is to bring the excitement of work to the broader community.

Enquiries:

School of Mathematical & Physical Sciences

Mathematics Building
University of Newcastle
Callaghan NSW 2308 Australia

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F +61 2 4921 6898
E EnquiryCentre@newcastle.edu.au
www.newcastle.edu.au/school/math-physical-science/



Our students are taught by experts and are exposed to and can participate in our research, which is focused on new concepts and technologies that will be the basis for tomorrow's world.



School of Psychology

The School of Psychology offers a range of Undergraduate programs accredited by the Australian Psychology Accreditation Council (APAC) at our Callaghan and Ourimbah campuses. The courses cover the main areas of study in psychology, while our postgraduate coursework programs offer professional training in Clinical and Health psychology.

We have a very active research profile and our postgraduate research students are provided with excellent facilities for their work. Scholarships for PhD students are available through the University.

The School also operates a Community Psychology Clinic where honours students may observe general clinic operations and PG students provide therapy sessions.

Enquiries:

School of Psychology
Behavioural Sciences Building
University of Newcastle
Callaghan NSW 2308 Australia

T +61 2 4921 8987

F +61 2 4921 6980

E EnquiryCentre@newcastle.edu.au

www.newcastle.edu.au/school/psychology/

TEACHING

Our Faculty prides itself on the quality of its degrees; hence we have attracted the best teachers and researchers from around the world. We offer some 16 undergraduate degrees as well as coursework postgraduate degrees at Certificate and Masters level. Our programs are diverse and challenging and our methods of teaching reinforce independent learning, analytical thinking and creativity. Degrees are offered in many modes – on-campus, on-line, off-campus, and off-shore – depending on the individual program. The degrees in many instances make use of technology to improve the learning opportunities for students.

Flexible, hands-on learning

Students are encouraged to take responsibility for their own learning and are supported in a variety of flexible ways, including lectures, tutorials, seminars, problem based learning, computer simulations, laboratory practicals and other related activities. These flexible teaching methods improves the learning process and is effective in producing students who think analytically and whose skills make them even more attractive to future employers.

Programs for the 21st Century

Our Faculty knows how important it is that our programs remain innovative, topical, academically rigorous and relevant. We constantly review all our offerings to ensure that they meet the highest standards of quality. Of equal importance is our commitment to areas of study that provide core Science and Information Technology skills, as well as expanding upon them to generate degrees applicable to the 21st Century graduate.

Career relevant education

Our graduates benefit from the relevant and progressive courses leading to internationally recognised degrees, which prepare them to meet with demands and challenges of their chosen careers. Employers value the high standard and professional relevance of our programs. Graduates from our Faculty can be found in leading industry, research and teaching positions across the world.

FACILITIES AND RESOURCES

As the University's Faculty for Information Technology, we maintain a high level of IT related systems, expertise and support. Our computer laboratories are constantly being updated and are well placed to service both our teaching and research needs.

Our science laboratories, workshops and studios are all equipped with sophisticated instrumentation and technologies, which help to contribute towards our success as a leading research and teaching Faculty.