INFORMATICS

Information and communication technology is a pervasive discipline that encompasses information systems and technology, computer science and software engineering, electrical, computer and telecommunications engineering, and mathematics and applied statistics. The Faculty of Informatics was purpose-built to educate graduates who will become leaders and provide solutions to the complex problems in the information and communication industry. Our academics have a strong engagement with the industry and conduct research at the forefront of their chosen disciplines. The deep understanding gained through active research pursuits is brought to the classroom to create a learning environment that inspires and nurtures curiosity in our students. Our graduates are amongst the most sought-after by the industry because of their deep knowledge of the discipline, adaptability, communication skill, application and ethical professionalism.

UOW recognizes the fast pace of development in the Information and Communication Technology (ICT) industry. UOW was one of the first universities to combine fields of study related to this industry into one faculty – Informatics. Experts encompassing the entire breadth of the underlying science, IT, engineering and mathematical methodologies in the ICT industry have created a dynamic teaching, learning and research environment. This approach of bringing together staff from all disciplines relevant to ICT is now being emulated by universities worldwide.

Wollongong is one of the largest sites for telecommunication research in the southern hemisphere. Leading global companies have chosen Wollongong as a research base, with companies including Motorola, BHP (Bluescape), Boeing and Sun Microsystems undertaking significant research projects with faculty staff. In addition, the Australian Bureau of Statistics (ABS) has an exclusive statistical consulting arrangement with the university.

Large multinational IT companies such as Accenture, Andrew Corporation and Pillar Administration have established their operation bases in the Wollongong area. Such creative partnerships enable students to interact with and learn from industry leaders and faculty staff who bring their industry experience to the classroom. Practical skills are reinforced through major projects incorporated into degree programmes.
MAJORS

DIGITAL SYSTEMS SECURITY

Information security should be viewed as a critical aspect of every computer scientist's education. With the rapid evolution of security technology, this major provides knowledge and tools desirable in the industry. Students gain important knowledge and skills in up-to-date security technologies including computer security, system security, and computer network security.

Major Subjects:
- System Security
- Distributed Systems
- Cryptography and Applications
- Network Security

MULTIMEDIA AND GAME DEVELOPMENT

Multimedia and Game Development is a major that helps students develop both computer science and creative skills in up-to-date multimedia technologies, 3D modelling and animation tools and technologies for game development.

Major Subjects:
- 3D Modelling and Animation

SOFTWARE ENGINEERING

Software Engineering is a program that provides students with extensive education in modern approaches to the analysis, design, and implementation of software systems. Students gain knowledge and skills in up-to-date techniques, methods and technologies crucial to the development of software systems.

Major Subjects:
- Software Development Methods and Tools
- Introduction to Management for Professionals A
- Software Process Management
- Software Engineering Practices & Principles

The popular double majors include:

Students may combine any two of the above majors for a double major:

- A major in Software Engineering can be combined with Digital Systems Security, Multimedia and Game Development, or Enterprise Systems Development.
- A major in Digital Systems Security can be combined with Software Engineering, Multimedia and Game Development, or Enterprise Systems Development.
- A major in Multimedia and Game Development can be combined with Software Engineering, Digital Systems Security or Enterprise Systems Development.

ADDITIONAL COMPUTER SCIENCE MAJORS ARE AVAILABLE AT THE UNIVERSITY OF WOLLONGONG²

- Enterprise Systems Development

² Students can pursue the major under 3.1.0 = 3.3 or 3.1 = 3.3 arrangement, whereby students complete up to two years of studies (2.0) and transfer to 3.0 to complete the remaining years of studies.
BACHELOR OF COMPUTER SCIENCE
CRICOS 00339K

Duration
3 years

Semesters
Two 10-week semesters of study in a year
(March & August Intakes)

Majors available at INTAS
SUBANG
Digital System Security, Software Engineering
Multimedia and Game Development

PENANG
(No Majors)

PROFESSIONAL RECOGNITION
Accredited by the Australian Computer Society as meeting requirements for membership at the Professional Level.

Computer science is the study of algorithmic processes that describe and transform information: theory, analysis, design, efficiency, programming and application. The degree provides a solid foundation in computer science, focusing on the development of high-level programming skills that can be applied across the widest range of applications. In addition to the compulsory subjects, students can take an additional four subjects from one of the specialist areas to form a major study. A wide range of elective subjects is available, making this the Faculty’s most flexible course in the computer, Internet and IT areas.

CORE SUBJECTS
YEAR 1
- Information Systems
- Algorithms & Problem Solving
- Procedural Programming
- Applied Programming
- Discrete Mathematics
- Understanding Variation & Uncertainty
YEAR 2
- Information Technology & Cybersecurity
- Algorithms and Data Structures
- Object-Oriented Programming in C++
- Interacting Systems
- Systems Development
YEAR 3
- Project

MAJORS
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Major Subjects:
- System Security
- Distributed Systems
- Cryptography and Applications
- Network Security

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Major Subjects:
- 3D Modelling and Animation
- Computer Graphics
- Game Development
- Game Engine Fundamentals
- Multimedia Computing

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ADDITIONAL COMPUTER SCIENCE MAJORS ARE AVAILABLE AT THE UNIVERSITY OF WOLLONGONG*
- Enterprise Systems Development

* Students can pursue this major under a 1 x 3.1 or 2 x 1.5 arrangement, whereby students complete up to two years of studies (80 credit points) before moving to Wollongong to complete the remaining years of studies.
MAJORS

eBUSINESS

Conducting business online is increasingly an essential feature of any organisation's operations. The challenges include integrating adaptive business solutions to exploit evolving technologies. This major provides students with an understanding of the organisational environment and a working knowledge of the technologies used successfully in the eBusiness environment.

Major Subjects:
- Markup Language
- Strategic Systems Management
- Strategic e-Business Solutions
- Business Process Management

NETWORK DESIGN & MANAGEMENT

Every major company in the world now relies on networks to survive. A major in Network Design and Management develops the skills necessary to build or manage networks to support businesses and governments in a competitive global market.

Major Subjects:
- Internet Technology
- Corporate Network Planning and Design
- Corporate Network Management
- Systems Administration

The popular double majors include:

Students may combine any two of the above majors as a double major. To be awarded with a double major candidates must ensure that four of the subjects selected satisfy the requirements of one major and that a separate set of four subjects satisfies the requirements of a second major, i.e. any subject counted towards one major cannot also be counted towards a second major:

- a major in network design and management can be combined with eBusiness
- a major in eBusiness can be combined with network design and management

Students seeking to transfer to UNSW should be aware that Wollongong campus international student tuition fees are available at [http://www.newcastle.edu.au/future/international/apply/fees/index.html](http://www.newcastle.edu.au/future/international/apply/fees/index.html)

ADDITIONAL INFORMATION TECHNOLOGY MAJORS ARE AVAILABLE AT THE UNIVERSITY OF WOLLONGONG*

These additional majors include:
- Social Policy
- Web Design and Development

* Students can pursue these majors under a 1 + 2.5 + 1 or 2 + 1 arrangement, whereby students complete up to two years of studies in Wollongong then transfer to UNSW to complete the remaining part of studies, or vice versa.