

YOUR GUIDE TO
UNDERGRADUATE
STUDY IN
INFORMATION TECHNOLOGIES
2012



THE UNIVERSITY OF
SYDNEY

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IMPORTANT DATES

FIRST SEMESTER 2012

5 MARCH
LECTURES BEGIN

6 - 13 APRIL
MID-SEMESTER VACATION

11 - 15 JUNE
STUDY VACATION

18 - 30 JUNE
EXAMINATION PERIOD

30 JUNE
SEMESTER ENDS

SECOND SEMESTER 2012

30 JULY
LECTURES BEGIN

24 - 28 SEPTEMBER
MID-SEMESTER VACATION

5 NOVEMBER - 9 NOVEMBER
STUDY VACATION

12 - 24 NOVEMBER
EXAMINATION PERIOD

24 NOVEMBER
SEMESTER ENDS

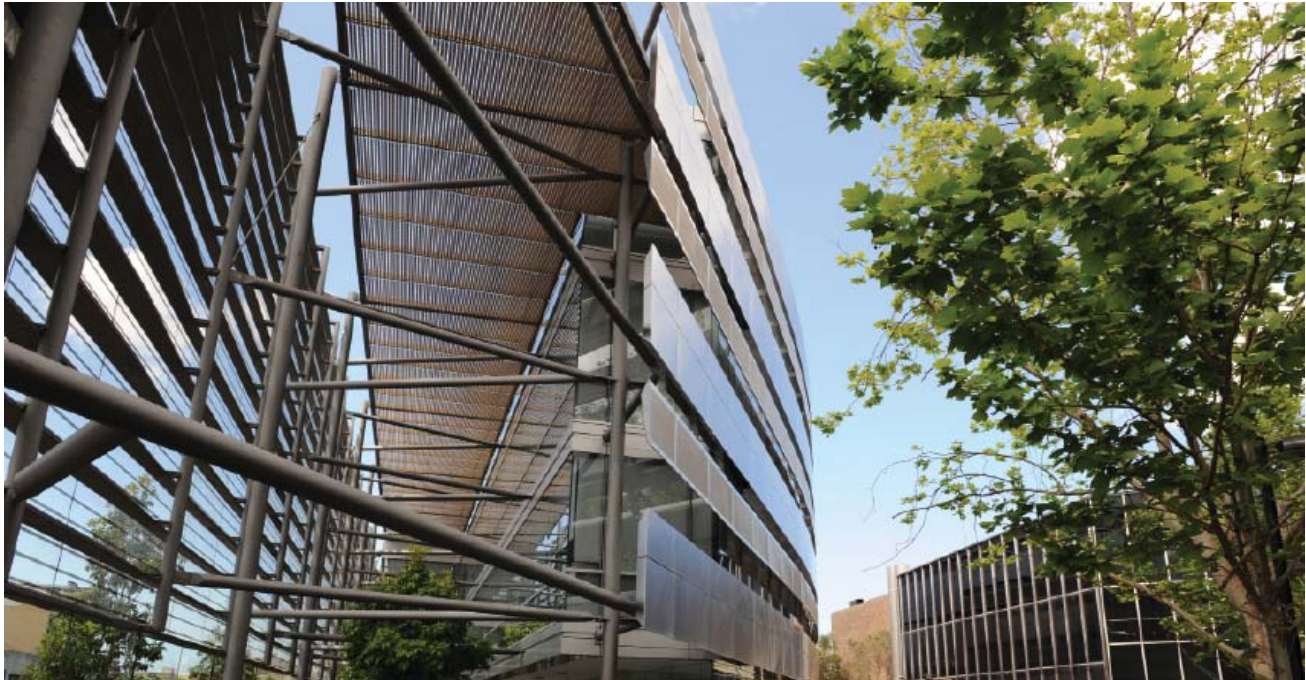
SUMMER SCHOOL

3 JANUARY
LECTURES BEGIN

2 MARCH
SUMMER SCHOOL ENDS

WELCOME

INFORMATION TECHNOLOGIES



Oscar Wilde, the famous Irish writer once said “Education is an admirable thing, but it is important to remember from time to time, that nothing that is worth knowing can be taught.” There is a big difference between being **taught** and **learning** and this distinction becomes more pronounced when one transitions from high school to university. At the School of Information Technologies, our primary objective is to provide an environment where students can weave and create flexible pathways to learn, interact with world leading IT researchers and practitioners, and immerse themselves in the rich world of computer science, information systems and their relationship with other disciplines.

Computer science and information systems may be young disciplines but there is a core body of knowledge which underpins information technology and will continue to be relevant beyond the next “killer application.” We want to introduce our students to this core knowledge and we believe that our graduates should emerge as “computational thinkers and practitioners*” with the following attributes:

1. The knowledge to appreciate what computers can do better than humans and humans can do better than computers.
2. The confidence to apply computational ideas and techniques in other disciplines including business, engineering, natural and social sciences, and the humanities.

3. Understand how computational ideas underpin the modern communication and social networking structure.
4. Have a computational perspective on problem solving, designing systems and understanding human behaviour.
5. The ability to abstract and deconstruct complex tasks into simpler parts and then combine them.
6. The breadth of knowledge to complement and combine computational, mathematical and engineering thinking.

Whether you are planning to be an IT professional, business analyst, archaeologist, economist or geographer, these skills will increase your effectiveness and will help you excel in your chosen career.

So come and see us and together we can explore the vibrant and exciting world of computer science and information systems.

Professor Sanjay Chawla
Head
School of Information Technologies

* Computational Thinking by Jeanette Wing, *Communications of the ACM*,

CAREERS IN IT

YOUR CAREER

Where can an IT degree from the University of Sydney take you? The answer is EVERYWHERE. IT is versatile and can be applied in any field of interest or chosen career, whether it be mining or marine biology or medical forensics.

IT professionals find solutions, build infrastructure, develop products, manage data, reduce wastage, analyse trends, strategise, communicate and research, amongst other things. IT is central to solving the big challenges facing humanity and has an effect on millions of people worldwide.

By choosing IT, you will become part of a dynamic and fast-moving industry with a challenging and fulfilling career.

LINKS

The School of Information Technologies has strong links with a number of professional associations and leading research bodies.

PROFESSIONAL ASSOCIATIONS

Association for Computing Machinery (ACM)

ACM is the world's largest educational and scientific computing society. Professor Alan Fekete was named as a distinguished scientist by the ACM, "in recognition of significant accomplishments in, and impact on, the computing field".

The Australian Computer Society (ACS)

The school's undergraduate degrees have been awarded professional level accreditation by the ACS. Professors David Feng, Peter Eades and Jon Patrick are fellows of the ACS.

Institute of Electrical and Electronics Engineers (IEEE)

IEEE is the world's leading professional association for the advancement of technology. Professors David Feng and Albert Zomaya are fellows of

the IEEE. Professor Zomaya was recently awarded the IEEE Technical Committee on Scalable Computing (TCSC) Medal for Excellence in Scalable Computing as well as the IEEE Parallel Processing Technical Committee Outstanding Service Award.

PARTNERSHIPS

Capital Markets Cooperative Research Centre

The Capital Markets Cooperative Research Centre brings together the best in innovative research and technology to the capital markets domain. Staff and students from the school are working on projects with the Capital Markets CRC.

National ICT Australia (NICTA)

NICTA is a national organisation with the objective of becoming a world-class research institute and centre of excellence in science and innovation. NICTA brings together many of Australia's and the world's top researchers in ICT, including several staff from the school.

Smart Services Cooperative Research Centre

The Smart Services CRC is funded by the Australian Government to enable research and development to support innovation in Australia's services economy. Staff and students from the school are working on projects with the Smart Services CRC.

Microsoft Research Asia (MRA)

MRA is Microsoft's fundamental research arm in the Asia Pacific region. The University of Sydney and MRA have signed an MOU which allows for student exchange and research collaboration. MRA also sponsors several prizes, scholarships and activities in the school.

WORKING WITH INDUSTRY

At the University of Sydney, we collaborate with industry to make relevant technological breakthroughs. Undergraduate students have the chance to work with industry when completing project units of study or summer scholarships. Some of the companies and organisations include:

- Australian Nursing Home Foundation
- Avaya
- St Vincent's Hospital
- Satellite Music Australia
- Moxy Knowledge Management
- NSW Department of Health
- National ICT Australia
- Hewlett Packard, UK
- Royal North Shore Hospital



“Being a computer scientist means I can be part of the solution, and get to play with lots of exciting new technologies.”

CATHERINE STEWART
BCST (HONS)
2011

GRADUATE PROFILE

CATHERINE STEWART

I developed an interest in computer programming and got a glimpse of life in the School of IT at the University of Sydney when I attended the National Computer Science School in 2005 and again as a returning student in 2006. The staff, students and facilities were fantastic and I found computer programming to be, for lack of a better term, 'really, really cool'.

I undertook a Bachelor of Computer Science and Technology degree and learned that IT is about understanding how to apply technology to solve real world problems. So many things we do in our everyday lives can and have been made better through solutions created through computer science.

The staff and students in the School of IT were all incredibly friendly and helpful and created such an intellectually stimulating environment, as well as one where we had a lot of fun.

During my studies, I became involved with the Sydney University IT Society (SUITS), which is a fantastic student organisation. Joining SUITS was a great way to meet new people and get involved with university life. The friends you make in SUITS provide a great network to have throughout your time at university, and SUITS events are a great way to relax and hang out with like-minded people.

After I graduated, I went to work for IBM as a consultant. I'm currently doing

development work for the Department of Defence, one of IBM's clients. I'm working with fantastic people and using a lot of the skills I learned in my time at the School of IT. It's been very interesting to apply my knowledge from university to real-world situations, and grow my skills even further.

I would say to anyone considering an IT degree at the University of Sydney to definitely go for it! Studying IT has given me a unique perspective on the world around me; I am always looking for how I can make things better, faster or more efficient.

THE SYDNEY ADVANTAGE

SYDNEY CHOICE

At the University of Sydney we offer choice - a wide range of modular courses with flexible degree structures. We don't believe one model fits all. We encourage you to start working towards your goal, your way, from your first day at university.

OUR CAMPUS

In 2010, the university completed a \$800 million project to renew, rebuild and enhance our campuses. The result is a unique blend of heritage buildings, top-modern architecture and landscaping. As part of this upgrade, the School of Information Technologies moved into a purpose-built building with state-of-the-art facilities. The School is a key teaching and research institution of IT in Australia.

TEACHING EXCELLENCE

The School of Information Technologies is a leader in innovative IT teaching in Australia. Our commitment to teaching excellence has been recognised with several awards, most recently:

- Dean's Award for Excellence in Tutoring - Dr Jason Chan
- Vice-Chancellors' Award for Outstanding Teaching - Dr James Curran and Dr Tara Murphy
- Faculty Award for Outstanding Teaching - Dr James Curran, Dr Irena Koprinska and Dr Tara Murphy
- Faculty Teaching Award for new curriculum design - Dr James Curran and Dr Tara Murphy
- Computing Research and Education Association of Australasia (CORE) Teaching Award - Professor Judy Kay

INTERNATIONAL RECOGNITION

Regardless of which international university ranking scheme you choose, the University of Sydney is listed as a leading world university. We've been independently ranked as first in NSW; in the top 10 in the Asia Pacific Region; and as one of the world's top 40 universities. More importantly, employers have ranked the quality of the University of Sydney's computer science and information systems graduates higher than some of the leading world universities including Princeton and Carnegie Mellon in the United States.

QUALITY ASSURANCE

The University of Sydney works with other leading universities nationally and internationally for quality assurance in our teaching and research programs. Sydney is a member of:

- The Academic Consortium 21
- Association of Pacific Rim Universities
- Group of Eight

- Worldwide Universities Network

At Sydney we take pride in benchmarking ourselves with the best internationally.

TECHNOLOGY

In addition to modern teaching facilities the School of Information Technologies has five purpose-built specialised research laboratories which students may access depending on their study requirements.

Our specialised research labs include:

- Experimental Research Laboratory - 20 powerful, networked workstations with additional facilities for hosting experiments in which subjects can carry out experimental tasks under controlled conditions.
- Grid Lab - High performance computers and network infrastructure for experiments in grid computing, the next revolution in internet and distributed computing technology.
- Multimedia Lab - A professional studio for developing video and audio presentations, available for both research and commercial use.
- Pervasive Computing Lab - Used to investigate computing systems of the future where the user interface and computing power is ubiquitous.
- Usability Lab - State-of-the-art eye-tracking facilities for evaluating user interfaces and understanding how people interact with novel technologies.
- Visualisation and High-Performance Computing Laboratory (ViSLAB) - The leading site in Australia for advanced visualisation and computing.

A RICH AND VIBRANT STUDENT LIFE

IT students are encouraged to join the student-run Sydney University Information Technologies Society (SUITS).

SUITS is an extremely active student society, and provides many activities and services for our members, such as social events, seminars and discussion sessions, and connecting students with the IT industry, and liaising between staff and students.

Everyone is welcome at SUITS events, which is a fun way to get to know your fellow students. You can become active in university life outside the classroom at console gaming nights, programming competition training, trivia nights, LAN gaming nights, barbecues, seminars and more.

However, it isn't all just about fun. SUITS also provides valuable IT resources for students such as tutorials and guides on programming, using software tools and UNIX.

Every year a group of students are elected to lead the society, providing a great opportunity to demonstrate



“IT has changed the way people live, and by studying IT I feel like I can make a difference to the world.”

SASHA BERMEISTER
SECOND YEAR
BIT

student leadership skills and further their involvement with the university and the school. SUITS is a student-run society, pushed further every year through the dedication of the students involved.

You can find the SUITS blog at:

<http://suits.org.au>

or visit us on Facebook or at Twitter (@suitsusyd)

WHAT'S ON FOR SUITS IN 2012?

Famous barbecues

SUITS serves up one of the best, and cheapest, barbecues on campus every week of semester. Come along and meet members and friends over a great all-you-can-eat barbecue.

SUITS Social Nights

From board-games to trivia nights, SUITS run an array of social activities for all our members.

Console Gaming Nights

We bring the consoles, you bring your gaming skills (or lack thereof!).

Lunchtime Discussion and Programming Sessions

SUITS meets weekly to discuss hot topics or to practice competition level programming. The practice is part of training for the Regional ACM Programming Competition.

Spotlight Lecture Series

Our lecture series showcases the cutting edge research at School of Information Technologies and visiting IT professionals present the latest industry trends.

LAN Gaming Nights

SUITS holds several evenings of multi-player games, with lots of food and fun. In 2012 we are looking into expanding this event to include other universities!

In addition to SUITS there are hundreds of clubs and societies, cafes, bars, bands, theatre productions, sports, and three sporting complexes on campus.

ALUMNI

The University of Sydney IT Alumni Association (USITAA) was established to develop relationships between graduates and the School of Information Technologies, and to help alumni stay in touch with the University, and with each other.

All graduates and staff of the school are members of USITAA. Current students are associate members.

USITAA works with the school on a number of initiatives and activities for alumni, and in the future hopes to work closely with SUITS to help build networks between alumni and current students.

UNDERGRADUATE DEGREE PROGRAMS

The University of Sydney provides several different degree structures for students interested in information technology.

BACHELOR OF COMPUTER SCIENCE & TECHNOLOGY

(2011 ATAR: 85.25)

The 3-year Bachelor of Computer Science and Technology (BCST) degree prepares students to operate at the cutting edge of information technology. An additional Honours year is available to eligible students.

BACHELOR OF COMPUTER SCIENCE & TECHNOLOGY (ADVANCED)

(2011 ATAR: 92.70)

The Bachelor of Computer Science and Technology (Advanced) (BCST Adv) is a more challenging variant of the BCST and is suitable for students with substantial programming experience and aptitude and/or a high ATAR. The degree has the same flexible structure as the BCST except that students take a significant amount of their study in 'advanced' units, where more sophisticated and challenging topics and approaches are covered. An additional Honours year is available to eligible students.

BACHELOR OF INFORMATION TECHNOLOGY

(2011 ATAR: 97.50)

This 4-year degree is for students wishing to pursue leadership roles in the IT industry. The degree is suitable for students who perform exceptionally well in the NSW HSC (or equivalent).

The Bachelor of Information Technology (BIT) was developed in extensive consultation with industry to ensure graduates are equipped for the changes demanded in this dynamic area.

Within the degree students have considerable flexibility in choice of subjects, and the opportunity to undertake a major research project in their final year.

STREAMS

Our programs offer streams (majors) in **computer science** or **information systems**.

Computer science involves the study of computers and the programs that run on computers. This stream will appeal to more technically-minded students who wish to contribute to the future development and support of technology.

Information systems involves creating computer systems which satisfy individual and organisational needs. Rather than being about developing and enhancing the performance of computers, information systems is about making computer systems work for people.

Within the structure of our degrees, students are encouraged to explore their interests by enrolling in units from a range of other disciplines, such as psychology, languages, biology, philosophy, geography or commerce. This provides specific knowledge useful to the application of information technologies in that area.

Students may also study IT in these degrees.

- Bachelor of Engineering (Software) (2011 ATAR: 91.05)
- Bachelor of Science (2011 ATAR: 84.50)
- Bachelor of Science (Advanced) (2011 ATAR: 95.00)

SAMPLE ENROLMENT: BACHELOR OF COMPUTER SCIENCE & TECHNOLOGY (INFORMATION SYSTEMS STREAM)*

YEAR 1

Introduction to Programming
Foundations of Information Technology
Professionalism in Engineering & IT
Data Structures
Differential Calculus
Discrete Maths
Linear Algebra
Statistics
Elective of choice


YEAR 2

Information Systems
Systems Analysis and Modelling
Database Systems 1
Introduction to IT Security
Intermediate Level Maths or Statistics
Elective of choice (3)

YEAR 3

Management of IT Projects and Systems
Information Systems Project
Analytical Methods and Information Systems
Database Systems 2
E-Business Analysis and Design
Human-Computer Interaction
Elective of choice (2)

* Please note, this is a sample table only, please refer to faculty handbooks for enrolment advice



“Studying IT at Sydney is extremely rewarding and challenging. I chose the BCST because it caters for all students, whether you are interested in software, programming or other IT areas. Combined with the student life on campus and SUITS, I think Sydney offers one of the best IT courses in Australia.”

JAMES ALEXANDER
THIRD YEAR
BCST

COMBINED DEGREE PROGRAMS

Combined degrees allow students to add another area of study to the technology-based IT degrees. By adding a second qualification students broaden their career opportunities. Studies for both degrees are fully integrated.

The School of Information Technologies offers the following combined degrees.

BACHELOR OF INFORMATION TECHNOLOGY / BACHELOR OF ARTS (2011 ATAR: 98.20)

In this combined degree students study IT whilst adding skills from humanities, social sciences and languages. In addition to an IT stream (computer science or information systems), students can complete one major and one minor study in arts areas of study, for example linguistics, anthropology, cultural studies, film studies, digital culture or a language.

Graduates will have the technical expertise to shape and manage current and emerging technology. Complemented with the lifelong communication, research and critical thinking skills that are acquired from an arts degree, graduates from the Bachelor of Information Technology/ Bachelor of Arts (BIT/BA) will be well positioned to take on a career in a wide variety of fields.

BACHELOR OF INFORMATION TECHNOLOGY / BACHELOR OF COMMERCE

(2011 ATAR: 95.70)

In this combined degree students undertake one major from the Faculty of Economics and Business (for e.g., accounting, finance, economics) and a stream from IT. Students will learn skills and vocabulary from both disciplines and have the opportunity to practise their combined skills in project-based courses and through industry internships.

Graduates have exceptional skills in both IT and business which help shape them into the future business leaders and entrepreneurs.

BACHELOR OF INFORMATION TECHNOLOGY / BACHELOR OF LAWS

(2011 ATAR: 99.70)

The Bachelor of Information Technology/Bachelor of Laws (BIT/LLB) is a 6-year award course.

The degree will produce graduates who have an extensive technical understanding of both IT and Law.

Graduates will be well equipped to tackle legal issues that have become more prevalent as technology has progressed, such as copyright, privacy, data collection, and censorship and can help shape policy in these areas. Similarly, IT professionals can benefit greatly from a working knowledge of law when dealing with contracts, patents, share holders or working in international markets.

Bridging the gap between these two domains will be vital in the future, and graduates from this combined degree will be highly sought after in both professions.

SAMPLE ENROLMENT: BACHELOR OF INFORMATION TECHNOLOGY/BACHELOR OF ARTS (COMPUTER SCIENCE STREAM)*

YEAR 1

Introduction to Programming
Data Structures
Professionalism in Engineering & IT
Foundations of Computer Systems
Differential Calculus
Discrete Maths
Linear Algebra
Statistics
Structure of Language
Language & Social Context

YEAR 2

Algorithms and Complexity
Operating Systems and Machine Principles
Database Systems 1
Systems Analysis & Modelling
Introduction to Logic
Syntax
Phonetics & Phonology
Discourse Analysis

YEAR 3

Management of IT Projects & Systems
Human Computer Interaction
Database Systems 2
IT elective
Statistical Tests
Functional Grammar
Japanese 1 / Japanese 2

YEAR 4

Statistical Natural Language Processing
Major Development Project
Knowledge Discovery and Data Mining
Computer Applications in Linguistics
Advanced Data Models
Japanese 3 / Japanese 4

YEAR 5

Research Methods
Research Thesis B
Research Thesis A
Knowledge Management Systems
IT elective
Japanese Culture
Japanese Sociolinguistics

* Please note, this is a sample table only, please refer to faculty handbooks for enrolment advice



“Having two areas of study broadens the opportunities in both fields individually and as a combination. It gives you a nice balance to what you study.”

JOANNE YANG
SECOND YEAR
BIT/BA

BACHELOR OF INFORMATION TECHNOLOGY / BACHELOR OF MEDICAL SCIENCE
(2011 ATAR: 93.80)

This combined degree provides students with a structured program of study, adding skills from medical science, biomedicine, and bioinformatics to their IT degree. All students undertake core units in areas including computer science, information systems, and selected medical science areas.

The demand for graduates qualified in IT and medical science is expected to soar as medical science research becomes increasingly dependent on IT.

BACHELOR OF INFORMATION TECHNOLOGY / BACHELOR OF SCIENCE
(2011 ATAR: 96.95)

There is a natural synergy between IT and science: all areas of science have made significant advancements using IT. In this combined degree students undertake core units in areas including computer science, information systems, and selected science areas such as mathematics, physics, biology, chemistry, geography or psychology.

The degree will produce graduates who can meet a strong need from industry, for employees who have both extensive technical understanding of IT and essential skills in one or two science areas. Bachelor of Information Technology/Bachelor of Science (BIT/BSc) graduates can ideally look forward to a wide range of career options in both IT and science.

ADVANCED STUDENTS



ADVANCED COURSES

Performing well in the HSC or receiving consistently high grades for your IT units of study allows you to enrol in advanced subjects. An advanced unit, e.g. INFO2820 Database Systems 1 (Advanced), usually has a similar name to its general counterpart, INFO2120 Database Systems 1.

There are separate tutorial classes and/or lab classes and the subject material is more challenging, covered in greater depth, and assessed separately. These units often have separate lecture streams.

Students in advanced science degrees must enrol in a certain number of advanced subjects.

ADVANCED ENGINEERING & IT PROGRAM

The Advanced Engineering Program is open to students enrolling in engineering or IT degrees with outstanding academic ability (an ATAR of 98 or higher). It offers the opportunity to defer physics and mathematics in the first year and work in a supervised design group of about six students developing a premise into a working prototype.

Entry to the program is by invitation from the Dean following the release of HSC results. The program is available in all engineering disciplines and continues in Year 2, 3 and 4, enabling students to expand on the skills acquired during the first year.

Special individual projects are also available to eligible students enrolled in IT degrees in first, second and third year.

TALENTED STUDENT PROGRAM (SCIENCE)

The Talented Student Program (TSP) is available to students enrolling in science degrees. It challenges the most outstanding students, with opportunities to take extra courses or get involved in cutting-edge research projects. These projects, supervised by senior academic and research staff, expose students to school's world-class research facilities.

Students enrolling in science degrees who receive a high ATAR (>99.00), a result in band 6 in at least one HSC science subject area and/or a mark of 95 or better in HSC Mathematics Extension 2 are invited to join the TSP by the Dean of the Faculty of Science. To remain on, or obtain entry to the program in second or third year, students must maintain a distinction average.

VACATION SCHOLARSHIPS

Each year the School of Information Technologies offers students the opportunity to apply for vacation scholarships. High achieving students undertake a real-world research project over the summer vacation period in a research group in the school, National ICT Australia (NICTA) labs at the Australian Technology Park in Redfern, or with the school's industry partners and research collaborators.

The scholarships are valued at \$5,500 over a period of 12 weeks; project work starts in early December and is finalised in February before semester begins.

FURTHER STUDY

High achieving students will have many opportunities to continue IT study after completing their undergraduate degree.

Honours

Honours is an additional year of study entirely devoted to studying specialised areas of information technology.

During the year you will complete several advanced courses, and a semester long research project culminating in an Honours thesis and oral presentation.

Students may choose projects offered by staff or propose their own research projects.

Honours is open to students of sufficient merit who have taken at least 24 credit points of third year IT subjects within a science, arts or economics degree.



“After doing well in HSC computing I found that the advanced courses offered by my degree are a great fit for my skills.”

CALLAN MCNAMARA
SECOND YEAR
BCST ADV

Honours is also available as a fourth year in the Bachelor of Computer Science and Technology or Bachelor of Information Technology degree for students who have completed 144 credit points of study.

Postgraduate coursework degrees

After completing a three or four year degree you can continue your studies with our postgraduate coursework degrees in IT.

These programs are also suitable for recent graduates looking to enter the career market with higher level professional qualifications, or for graduates who are currently working in IT and are seeking a career change into a high level IT managerial role. Degrees include:

- Master of Information Technology
- Master of Information Technology Management.

For those wishing to undertake IT studies but completed an undergraduate degree in a different area, we recommend the Graduate Diploma in Computing, a year award course that provides graduates with a foundation in IT.

The programs provide high quality teaching in a broad range of IT subjects and students taking these courses have an excellent opportunity to extend their in-depth knowledge in specialist areas.

All of the postgraduate IT coursework degrees have been accredited by the Australian Computer Society (ACS).

Postgraduate research degrees

Students who have completed honours may be eligible for our Master of Philosophy (MPhil) and/or Doctor of Philosophy (PhD) research degrees.

These degrees can prepare you for an IT research career and to work in innovative and challenging environments in many industries.

The school is committed to excellence in conducting world class research in selected areas, and providing intellectual leadership.

Our research is strongly focussed in the areas of:

- IT applications in biomedicine and health care
- human-centred computing
- enterprise computing
- algorithmics and applications

Much of our research is interdisciplinary and internationally collaborative.

SCHOLARSHIPS

The following scholarships are available for students entering first year in 2012.

THE MICROSOFT RESEARCH ASIA SCHOLARSHIP IN IT

The Microsoft Research Asia Scholarship in IT was established in 2005 by a generous donation from Microsoft Research Asia.

The purpose of the scholarship is to encourage excellence in the field of information technology, and has a value of up to \$20,000.

The closing date for applications is Friday 2 December 2011.

TATA CONSULTANCY SERVICES UNDERGRADUATE SCHOLARSHIP

This scholarship, sponsored by Tata Consultancy Services, is valued at \$5,500 per annum for up to four years. One scholarship will be offered to a student from a NSW Priority Schools Programs (PSP) high school, who is enrolling in the BCST, BCST Adv or BIT degrees.

The closing date for applications is Friday 2 December 2011.

SCHOOL OF INFORMATION TECHNOLOGIES UNDERGRADUATE SCHOLARSHIPS

The School of Information Technologies will be awarding up to four entrance scholarships worth \$6,000 to students enrolling in IT studies in 2012. The scholarships are tenable for one year only.

The closing date for applications is Friday 9 December 2011.

AUSTRALIAN COMPUTER FOUNDATION SCHOLARSHIPS

The Australian Computer Society Foundation offers a range of scholarships to students commencing university.

To find out more, please visit the ACS Foundation Current Scholarships website:

<http://www.acsfoundation.com.au>

Please visit the School of IT scholarship website for updates:

sydney.edu.au/it/scholarships

UNIVERSITY-WIDE SCHOLARSHIPS

The University of Sydney offers scholarships to over 800 new undergraduate students every year, including: Merit and Entry scholarships (\$6,000 per annum), Access scholarships (\$6,000 per annum), Outstanding Achievement scholarships (\$10,000 per annum) and various Commonwealth Scholarships.

For more information on conditions, how to apply, closing dates and tips on applying please visit the University of Sydney scholarships website:

sydney.edu.au/scholarships/school

FACULTY SCHOLARSHIPS

The Faculty of Engineering and Information Technologies offers four Dean's Encouragement Awards to students studying engineering or IT (\$5000 for the first year).

For more information, please visit the Faculty's scholarships website:

sydney.edu.au/engineering/scholarships



“I believe IT means providing solutions to different sorts of practical problems in our lives. If you’re looking for challenges, IT is definitely the right track.”

CHARLES ZHANG
FIRST YEAR
BIT/BCOM

STUDENT PROFILE

CHARLES ZHANG, TATA CONSULTANCY SERVICES SCHOLARSHIP RECIPIENT

I’ve always been enthusiastic about information technology and, as a result, I enjoy doing anything related with IT. My parents work in the IT field, so that I got to see that a career in this industry can be quite exciting and rewarding.

I chose the BIT/Com course at the University of Sydney for these reasons but also because it offered me the opportunity to specialise in areas such as IT consultancy, software engineering and accountancy, career paths which are very appealing.

The scholarship I’ve received from Tata Consultancy Services is invaluable. I don’t have to stress about my financial situation, which has allowed me to concentrate on and enjoy my studies,

and to participate in other aspects of uni life, including joining clubs and getting involved in the university community.

Studying at the University of Sydney has helped me to develop skills such as logical thinking and attention to detail - I’ve learnt that even very small mistakes can prevent you from succeeding.

I’ve also seen that IT is an area which undergoes change every day and at a very fast pace, aspects which I find challenging and enjoyable.

Ideally, I hope to work in commerce or IT in a global company - my degree will give me the chance to gain a secure career with continued opportunities to

learn; it would be a pleasure to work for Tata Consultancy Services, to repay their generosity in awarding me my scholarship.

I would recommend to anyone looking for a challenging, exciting and rewarding career to choose IT at the University of Sydney. They will discover that it’s not just about memorising facts but about taking into account both small details and the big picture, learning to communicate effectively, and recognising the importance of personal creativity in coming up with solutions to problems facing the world today.

BEFORE UNIVERSITY



NATIONAL COMPUTER SCIENCE SCHOOL (NCSS)

The National Computer Science School (NCSS) is a 10-day summer school for students entering Year 11 and 12. NCSS brings together talented young people from around Australia for an intensive week of programming and computer science in the School of Information Technologies, at the University of Sydney.

NCSS is organised by academic staff, alumni and students of the School of Information Technologies. The school is residential, with students staying with NCSS staff in accommodation provided by the Women's College, within the University of Sydney main campus.

Students do not need previous experience to apply - just an interest in learning about computer science. The course assumes no previous programming experience and has been designed to suit a wide range of abilities.

Students in the Python stream will develop their own social networking site, like Facebook, and will learn:

- an object-oriented scripting language
- how social networking sites like Facebook work
- how the web actually works
- about dynamically generated web content
- to use professional web design tools

Students in the Embedded Systems stream will program embedded devices for controlling robots and will learn:

- the Arduino (C++-based) programming language
- how embedded systems work and are designed
- how to control robots using embedded systems

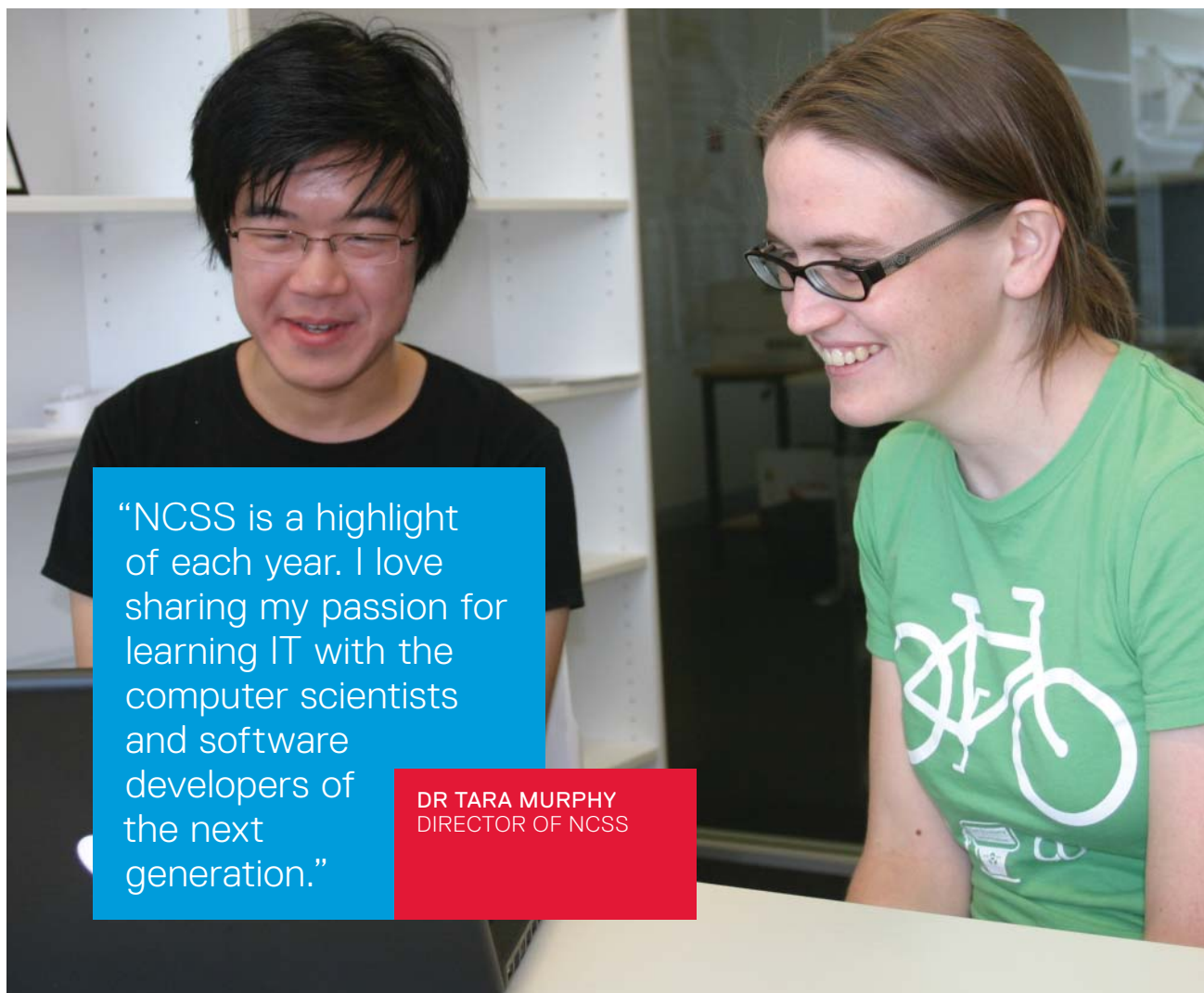
Students who are good at computing, science, mathematics or visual art, or very enthusiastic about computing are encouraged to apply.

NCSS CHALLENGE

The NCSS Challenge is an annual programming competition open to all high school students in Australia. In 2010, it received the Australian Information Industry Association's iAward for e-learning.

In 2010, 1600 teachers and students from across Australia used the challenge as an in-class activity for Year 9-12 computing studies.

Unlike other programming competitions, the challenge does not assume existing programming experience. Instead, students develop their programming skills in a competitive yet supportive environment. The challenge is aimed at computing studies students, but any student with an interest in science, mathematics or IT is encouraged to participate.



“NCSS is a highlight of each year. I love sharing my passion for learning IT with the computer scientists and software developers of the next generation.”

DR TARA MURPHY
DIRECTOR OF NCSS

The NCSS Challenge runs for 5 weeks in Term 3. The challenge has three streams: Python (beginners), Python (advanced), and Embedded System, so that a wider range of students can participate. The beginners division involves more simple, yet engaging, programming problems. The advanced division assumes existing Python experience and involves more advanced computer science. The Embedded Systems stream, developed by NICTA, involves C programming for embedded hardware.

Teaching resources and problems are distributed each Monday morning. Students have until Sunday night to submit solutions to the NCSS Challenge website, where they are marked automatically. A full set of correct solutions, hints and commentary about each challenge is sent out the following week.

GIRLS' PROGRAMMING NETWORK

The Girls' Programming Network (GPN) is a program developed and run by girls for girls.

Managed by a group of female IT students from the University of Sydney, GPN is run each term for high school girls interested in learning to program and improving their software development skills.

Each week you learn about exciting different topics in computer science, ranging from cellular automata to artificial intelligence.

You will also learn to program in Python and get hands-on experience writing computer programs that do what you want! Last year, GPN students put their skills to use writing chatbots that could enter a chat room and talk to participants.

GPN is a great way to improve your programming skills for the HSC Software Design and Development course as the tutors will cover the programming-related syllabus topics while teaching you to program in Python.

GPN will also prepare you for the National Computer Science School (NCSS) over summer and the NCSS Challenge which runs in Term 3.

You will be able to learn at your own pace while working one-on-one with tutors.

GPN is also a unique opportunity to meet new friends with similar interests, find mentors, and find out about university life.

HOW TO APPLY

The University admits applicants into its undergraduate degrees twice each year. Large numbers of places and the full range of degrees are available in Semester 1. Applicants for Semester 1 are also assured of a wide range of units of study (subjects) upon enrolment.

Fewer courses are available in Semester 2, and fewer places are available in these courses. The courses which are offered in Semester 2 vary from year to year, and normally there will be a smaller choice of units of study (subjects) available. Typically combined degrees are not available for local mid-year entry via UAC.

You must apply through the Universities Admissions Centre (UAC) to be considered for admission, whether you are seeking admission in Semester 1 or Semester 2, and if you are seeking to transfer from another degree.

EXPERIENCED PROGRAMMERS' PORTFOLIO AND FLEXIBLE ENTRY APPLICATION

Students wishing to apply for admission to the Bachelor of Computer Science and Technology, Bachelor of Computer Science and Technology (Advanced) or Bachelor of Information Technology, who have attained an ATAR slightly below the published cut-off, may apply for flexible entry. This is also a good opportunity for students who have considerable experience in computer programming to submit a portfolio of their work to the School of Information Technologies for consideration for admission. You can apply online, via the flexible entry website:

sydney.edu.au/engineering/apply/flexibleentry

in addition to submitting a UAC application.

Students who have recently completed HSC or equivalent, will also be required to submit Year 11 and 12 school results and reports, and a small CV with additional evidence of activities such as summer school attendance, leadership or community activities that may be relevant.

DEGREES AT A GLANCE

Bachelor of Information Technology (BIT)	
2011 ATAR:	97.50
CSP UAC code:	511797
CRICOS code:	039120D
Duration full time:	4 years

Bachelor of Computer Science & Technology (BCST)	
2011 ATAR:	85.25
CSP UAC code:	511795
CRICOS code:	019183K
Duration full time:	3 years

Bachelor of Computer Science & Technology Advanced (BCST Adv)	
2011 ATAR:	92.70
CSP UAC code:	511796
CRICOS code:	019183K
Duration full time:	3 years

BIT/Bachelor of Arts (BIT/BA)	
2011 ATAR:	98.20
CSP UAC code:	511765
CRICOS code:	064103G
Duration full time:	5 years

BIT/Bachelor of Commerce (BIT/BCom)	
2011 ATAR:	95.70
CSP UAC code:	511761
CRICOS code:	062100E
Duration full time:	5 years

BIT/Bachelor of Laws (BIT/LLB)	
2011 ATAR:	99.70
CSP UAC code:	511800
CRICOS code:	068767B
Duration full time:	6 years

BIT/Bachelor of Medical Science (BIT/BMedSc)	
2011 ATAR:	93.80
CSP UAC code:	511763
CRICOS code:	064104G
Duration full time:	5 years

BIT/Bachelor of Science (BIT/BSc)	
2011 ATAR:	96.95
CSP UAC code:	511764
CRICOS code:	064105F
Duration full time:	5 years

DATES AND CONTACTS

NATIONAL COMPUTER SCIENCE SCHOOL (NCSS)

NCSS 2012 will run from Saturday 7 - Monday 16 January, 2012.

www.ncss.edu.au

GIRLS PROGRAMMING NETWORK (GPN)

The GPN is ongoing throughout the year.

sydney.edu.au/it/gpn

NCSS CHALLENGE 2011

The NCSS Challenge runs for 5 weeks, commencing on Monday 1 August 2011.

www.challenge.ncss.edu.au

MRA SCHOLARSHIP IN IT

The closing date for the Microsoft Research Asia Scholarship in IT is Friday 2 December 2011.

sydney.edu.au/it/mra_scholarship

TATA CONSULTANCY SERVICES UNDERGRADUATE SCHOLARSHIP

The closing date for the Tata Consultancy Services Scholarship is Friday 2 December 2011.

sydney.edu.au/it/tata_scholarship

SCHOOL OF INFORMATION TECHNOLOGIES UNDERGRADUATE SCHOLARSHIPS

The closing date for the School of Information Technologies Scholarships is Friday 9 December 2011.

sydney.edu.au/it/sit_scholarship

EXPERIENCED PROGRAMMERS PORTFOLIO AND FLEXIBLE ENTRY APPLICATION

sydney.edu.au/engineering/apply/flexibleentry

SYDNEY OPEN DAY

Saturday 27 August 2011

For information call 1300 362 006.

The University of Sydney throws open its doors so you can discover more about the study opportunities and uni life. Remember to visit the Engineering Precinct to join in our activities, see the first year advanced engineering project, talk with academic advisers and have lunch on us. The Sydney University Engineering Undergraduate Association (SUEUA) is organising the free BBQ. Sydney Open Day is a great chance to speak to some of our current students, too.

INFORMATION DAY

4 January 2012

After you receive your HSC results in December, come along to Information Day to talk to our advisers about the courses available in 2012.

USEFUL CONTACT DETAILS

School of Information Technologies

T +61 2 9351 3423

F +61 2 9351 3838

E sit.information@sydney.edu.au

sydney.edu.au/it

Faculty of Engineering & Information Technologies

T +61 2 9351 2534

F +61 2 9351 4654

E eng.faculty@sydney.edu.au

sydney.edu.au/engineering

Engineering & IT Scholarships Office

T +61 2 9351 2131

F +61 2 9351 4654

E scholarships@eng.usyd.edu.au

University Help Line

T 1300 362 006

E future.students@sydney.edu.au

International Office

T 1800 899 376 (within Australia)

T +61 2 8627 8300 (outside Australia)

sydney.edu.au/future_students/international_undergraduate

[international_undergraduate](http://sydney.edu.au/future_students/international_undergraduate)

FEES

For information on fees, please visit

sydney.edu.au/courses

OTHER CONTACTS

Universities Admissions Centre

Locked Bag 112

Silverwater NSW 2128

T +61 2 9752 0200

www.uac.edu.au

Centre for English Teaching

T +61 2 9036 7900

E cet.info@sydney.edu.au

DISCLAIMER: This brochure presents general course information only. Students should always refer to the Faculty of Engineering and Information Technologies Handbook for specific information on subject descriptions and degree resolutions.

Photos: Catherine Stewart (page 03): Tom Cai.

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SCHOOL OF
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