

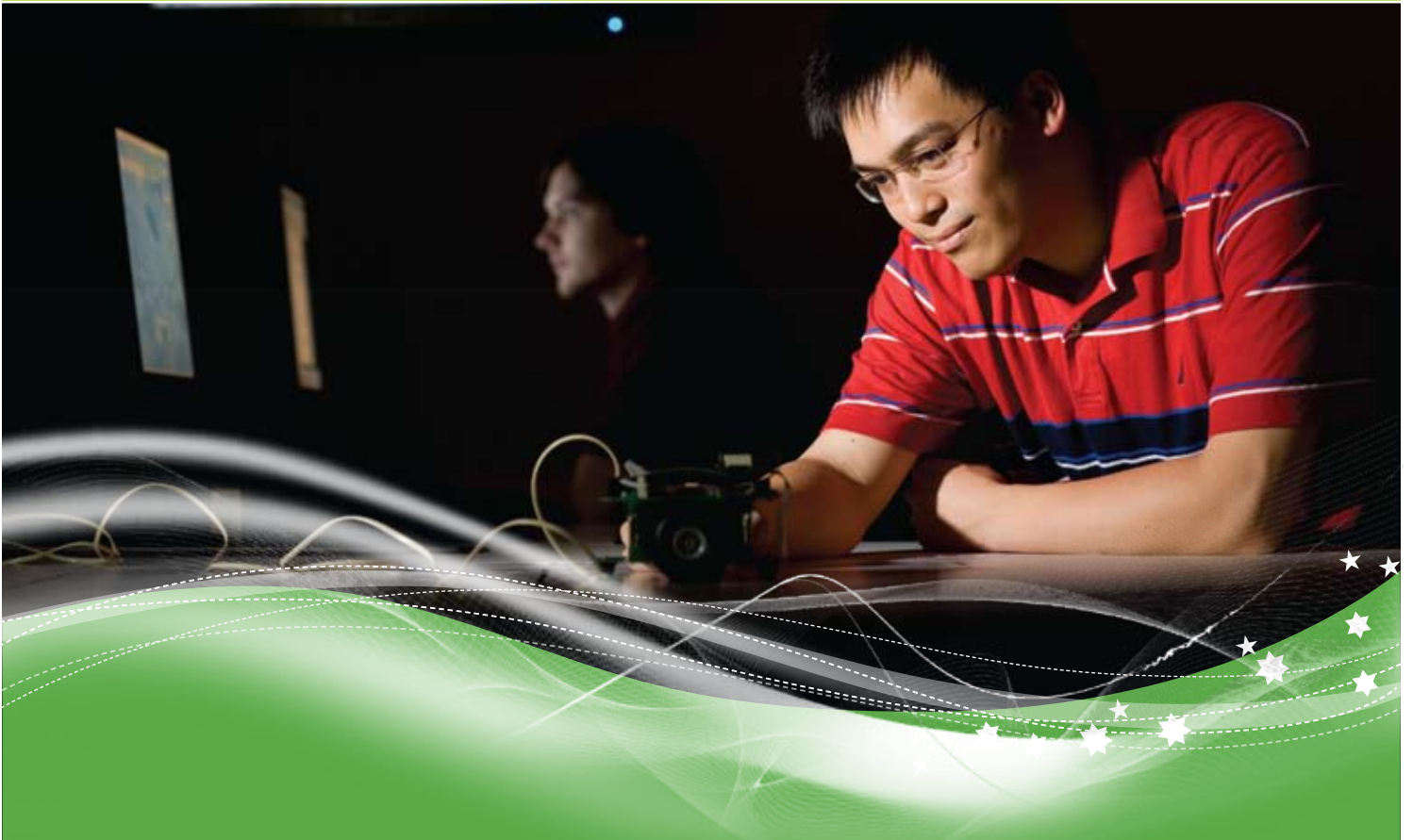
UNDERGRADUATE
PROGRAMS



THE UNIVERSITY
OF ADELAIDE
AUSTRALIA

2010

COMPUTER
SCIENCE



COMPUTER SCIENCE

Computer Science at the University of Adelaide has an excellent reputation for research, teaching and the quality of its graduates.

Links with international universities and other external organisations, including computer software and hardware companies, financial institutions and government research organisations bring strength and relevance to undergraduate computer science programs.

The School of Computer Science offers:

- State of the art computer facilities for student use. The facilities are equipped with the latest software, including discipline specific software, which is used both for teaching and assignment work. Computer laboratories are very well resourced with a generous student/machine ratio. In addition there is a staffed first year learning centre and specialist labs for advanced study.
- Access to an extensive collection of computer science texts and journals, housed in the University's Barr Smith Library

UNDERGRADUATE DEGREES

Bachelor of Computer Graphics

Bachelor of Computer Science

Bachelor of Computer Science (Software Engineering)

Bachelor of Engineering in Software Engineering*

* Please see *Engineering Program Information Leaflet* for more information

Student Study Commitment

To successfully complete courses, students will need to allocate an appropriate time commitment to their study. In addition to the formal contact - the time required for each course (eg, lectures, tutorials, practicals) - students will need to allocate non-contact time. Non-contact time will be required for a range of activities which may include, but are not limited to, assessment tasks, reading, researching, note-taking, revision, writing, consultation with staff, and informal discussion with other students. While the relative proportion of contact and non-contact time may vary from course to course, as a guide, a full-time student

can expect to spend, on average, a total of 48 hours per week on their studies during teaching periods. The full-time workload for undergraduate programs is 24 units per year.

Professional Accreditation

The Bachelor of Computer Science, Bachelor of Computer Science (Software Engineering), and the Bachelor of Engineering in Software Engineering programs are accredited by the Australian Computer Society (ACS). The Bachelor of Engineering in Software Engineering is also accredited by Engineers Australia. The Bachelor of Computer Graphics is a new degree and ACS accreditation will be sought in 2009.

They are designed to provide a professional qualification in computing and information technology. They also provide the necessary academic requirements for membership of the Institute of Electrical and Electronic Engineers (IEEE) and the American-based Association for Computing Machinery (ACM).

Career Opportunities

Graduates are highly regarded by employers and have been successful in a wide variety of areas. Employment opportunities are provided in the areas of administration, business data processing, computer programming, computer science, engineering design, financial software, games programming, graphics programming, information technology management, internet commerce, network management and support, quality improvement, scientific data analysis, systems analysis, software engineering, systems support, real-time process control and user interface programming.

Career Pathways

Within the programs in Computer Graphics, Computer Science and Computer Science (Software Engineering), students will be able to tailor their program to guide them to a particular career. Some of the options available are:

- **Computer Graphics:** As the computer entertainment industry grows the demand for computer scientists with skills in the areas of computer vision, graphics, networking and broadband telecommunications computer graphics and networking increases. With the correct choice of computer science courses and electives, students will be well prepared for a rewarding career in this area.
- **Database and Information Systems Management:** An increasingly important field in the area of information technology, with large volumes of collected data needing to be correctly stored and interpreted. It is recommended that students thinking about this type of career also look at undertaking electives from the discipline of statistics.
- **Network Management:** A specialisation of the systems support and internet commerce areas. Graduates in this area are focused on the technical aspects of design and implementation of data communications networks. Choosing courses specifically focused on network issues will assist students to follow this career path.
- **Software Engineering:** An essential discipline for anyone aiming to write reliable software for complex systems. Computer science degrees offer several software engineering courses, which include group projects tackling real world problems and cover the creation of software from its conception to delivery

Concurrent Degrees

Computer Science can be combined with any one of: Arts, Commerce, Economics, Engineering, Finance or Science. Students enrolled in the Bachelor of Computer Science may apply through SATAC for entry to their other chosen degree in the following year. Further information is available from the Faculty of Engineering, Mathematical and Computer Sciences.

BACHELOR OF COMPUTER GRAPHICS

SATAC Code: 324541

Duration: 3 yrs full-time

HESS Group: General

2009 TER/IB: 66.50/24

2010 International TER/IB: 70.00/25

2010 International Fee: \$23100p/a

Prerequisite: SACE Stage 2 Maths Studies

The Bachelor of Computer Graphics is suitable for students interested in developing interactive, visual software. The program covers computer science aspects of modern graphics technology, software

engineering principles and practice, and the use of industry standard modelling and animation packages. Graduates are well prepared for technical careers in worldwide fields as diverse as computer game development, defence, film post production, science, engineering and medical visualisation.

This program provides foundational studies in computer science and mathematics, followed by advanced work in more specialised areas of computer science and computer graphics. Other courses covered are in core computer science and mathematics, modelling and animation, graphics related programming, and software engineering. The focus of the content of the degree is thus

on software engineering, the mathematical and computing concepts behind computer graphics, hardware concepts for computer graphics, creative visualisation, modelling and animation.

HONOURS

Students who perform well can undertake an additional year of study to obtain a Bachelor of Computer Science with Honours. The Honours degree can provide access to postgraduate study and a wider range of professional opportunities in the computing industry.

BACHELOR OF COMPUTER GRAPHICS - INDICATIVE STUDY PLAN

LEVEL I	Computer Science IA/IB; at least one of: Mathematics IA/B or Mathematics for InformationTechnology I; at least one of: Internet Computing or Puzzle Based Learning; Imaging our World; Elective from any discipline up to 9 units (24)		
LEVEL II	Communication Skills, Computer Systems, Data Structures & Algorithms, Digital Media, Introduction to Software Engineering, Systems Programming in C/C++ (21)	Electives from any discipline (3)	
LEVEL III	Artificial Intelligence, Computer Graphics, Digital Media Studio, Event Driven Computing, Software Engineering & Project (18)	Other Level III Computer Science courses (6)	

BACHELOR OF COMPUTER SCIENCE

SATAC Code: 314111

Duration: 3 yrs full-time

HESS Group: General

2009 TER/IB: 66.75/24

2010 International TER/IB: 70.00/25

2010 International Fee: \$23100p/a

Prerequisite: SACE Stage 2 Maths Studies

The Bachelor of Computer Science caters for people with specific interests in computer science/information technology. It has a core of compulsory computer science courses and a wide range of elective courses including mathematics and statistics as well as commerce, design studies, economics, engineering, finance, humanities and social sciences or science.

The program produces highly skilled, adaptable graduates who are able to design computer-based solutions to the problems of information

management and processing in industry, commerce, science, entertainment, and the public sector.

HONOURS

Students who perform well can undertake an additional year of study to obtain a Bachelor of Computer Science with Honours. The honours degree can provide access to postgraduate study and a wider range of professional opportunities in the computing industry.

BACHELOR OF COMPUTER SCIENCE - INDICATIVE STUDY PLAN

LEVEL I	Computer Science IA/IB; at least one of: Internet Computing or Puzzle Based Learning; at least one of: Maths for Information Technology I or Mathematics IA/B (or equiv); Electives from any discipline up to 12 units (24)		
LEVEL II	Computer Systems, Data Structures and Algorithms (6)	Other Level II Computer Science courses (6)	Electives from any discipline (12)
LEVEL III	Communication Skills (3)	Level III Computer Science courses (15)	Software Engineering & Project (3) Electives from any discipline (3)



BACHELOR OF COMPUTER SCIENCE (SOFTWARE ENGINEERING)

SATAC Code: 314111

Duration: 3 yrs full-time

HESS Group: General

2009 TER/IB: 66.75/24

2010 International TER/IB: 70.00/25

2010 International Fee: \$23100p/a

Prerequisite: SACE Stage 2 Maths Studies

This program was developed in recognition of the need to produce graduates with specific training in Software Engineering. Graduates will gain the necessary skills for work in this area, including the organisational and project management skills vital for a successful career. They will also have a strong foundation in the funda-

mentals of computing and gain valuable experience in designing, constructing and testing large software systems through extensive project work.

The role of software engineers is increasingly vital in all aspects of transforming ideas into professional software solutions. Graduates from this program will be able to analyse problems and apply software engineering techniques to design computer-based solutions for a wide range of applications. They will be competent programmers in one or more programming languages and have a firm understanding of the relationship between software and hardware. Graduates will be trained for employment in the wide range of fields requiring software engineering skills, including data analysis, information management, data processing, real-time process control, embedded systems, computer graphics and visualisation.

Students wishing to enter this program apply through SATAC for a place in the Bachelor of Computer Science. A transfer to the Software Engineering program can be undertaken at any time during the student's enrolment provided the correct courses have been either completed or are to be completed. Students apply for transfer via the Faculty Office.

HONOURS

Students who perform well can undertake an additional year of study to obtain a Bachelor of Computer Science with Honours. The Honours degree can provide access to postgraduate study and a wider range of professional opportunities in the computing industry.

BACHELOR OF COMPUTER SCIENCE (SOFTWARE ENGINEERING)* - INDICATIVE STUDY PLAN

LEVEL I	Computer Science IA/IB; at least one of: Internet Computing or Puzzle Based Learning; at least one of: Maths for Information Technology I or Mathematics IA/B (or equiv); Electives from any discipline up to 12 units (24)			
LEVEL II	Computer Systems, Data Structures and Algorithms (6)	Introduction to Software Engineering, Systems Programming in C/C++ (6)	Electives from any discipline (12)	
LEVEL III	Communication Skills (3)	Level III Computer Science courses (12)	Software Engineering & Project, Event Driven Computing (6)	Electives from any discipline (3)

BACHELOR OF SOFTWARE ENGINEERING

SATAC Code: 324311

Duration: 4 yrs full-time

HESS Group: General

2009 TER/IB: 83.95/30

2010 International TER/IB: 80.00/27

2010 International Fee: \$25000 p/a

Prerequisite: SACE Stage 2 Maths Studies, Physics

This program provides study of both theory and practice of engineering principles over four years, coupled with a strong emphasis on group projects in the third and final years with close industrial connections. Students may also study a choice

of electives, allowing them to steer their course of study between traditional electrical engineering and commercial software engineering.

HONOURS

High-performing students will be invited to undertake honours.

BACHELOR OF SOFTWARE ENGINEERING - INDICATIVE STUDY PLAN

LEVEL I	Computer Science I A/B, Electrical & Electronic Engineering I A/B, Statistical Practice, Internet Computing (18)	Mathematics I A/B* (6)
LEVEL II	Computer Systems, Database & Information Systems, Data Structures & Algorithms, Discrete Mathematics, Introduction to Software Engineering, Systems Programming in C/C++, Embedded Computer Systems (21)	Elective (3)
LEVEL III	Computer Architecture, Computer Networks & Applications, Event Driven Computing, Operating Systems, Programming Techniques, Software Engineering Group Project (21)	Elective (3)
LEVEL IV	Financial Management for Engineers, High Integrity Software Engineering, Management & Professional Practice for Engineers, Software Engineering Group or Honours Project, Software Process Improvement (18)	Elective (6)

*Students entering without SACE Stage 2 Specialist Maths will be required to complete an additional mathematics course during summer semester at the end of Level I of their degree.

BACHELOR OF LAWS/BACHELOR OF COMPUTER SCIENCE

SATAC Code: 324111 - Stream 103 **Duration:** 5 yrs full-time **HESS Group:** General **2009 TER/IB:** 95.05/34 **2010 International TER/IB:** 85.00/30

2010 International Fee: \$23100 - \$24150 p/a **Prerequisite:** SACE Stage 2 Maths Studies

Students in Computer Science are able to complete the Bachelor of Computer Science and Bachelor of Laws as a double degree. Students already enrolled in the Bachelor of Computer Science can apply for entry to Law, through SATAC, during their first year of study.

ESSENTIAL INFORMATION FOR PROSPECTIVE STUDENTS

ENTRY REQUIREMENTS

School Leavers/Applicants with Year 12 Qualifications

Applicants must:

- qualify for the South Australian Certificate of Education (SACE) or recognised equivalent
- obtain a Recorded Achievement in at least five SACE Stage 2 subjects in a maximum of three attempts (which need not be in consecutive years); or for non-SACE Year 12 qualifications, meet all award requirements
- Include among their five SACE Stage 2 subjects at least four Higher Education Selection Subjects (HESS). The program chosen will determine whether these HESS all need to be in the General category or whether they can be from the General and/or Restricted category. Each program in this pamphlet lists the HESS Group to which it belongs.

A HESS is a SACE Stage 2 subject designated by the University as acceptable for admission purposes:

General: At least four of the subjects need to be classed as HESS General. The fifth subject just needs to contribute to a student's SACE.

Restricted: Four of the subjects can be either General or Restricted. The fifth subject just needs to contribute to a student's SACE.

Note: Year 12 results are acceptable regardless of the date undertaken.

Prerequisites and Assumed Knowledge

Applicants must have a Subject Achievement Score in the range 10-20 in SACE Stage 2 subjects prescribed as prerequisites. Prerequisites are an essential requirement for entry into specified academic programs, whereas Assumed Knowledge is a recommendation only.

Previous University Study

Applicants (except for MBBS) who have completed at least half a year of higher education study may be considered on the basis of their tertiary academic record and/or Year 12 results.

VET Qualifications

Successful completion of VET AQF diploma awards meet the minimum entry requirements for most Bachelor degree programs (for more information, visit: www.adelaide.edu.au/student/admission).

Admission to University diploma programs and some Bachelor degrees is possible on the basis of completed VET AQF Certificate IV awards. Visit your faculty/school website (see below) for more specific information on entry and provision of status for prior study.

ALTERNATIVE ENTRY SCHEMES*

The Special Entry Scheme caters for applicants who are 21 years of age or over (by 1 January of the year in which they wish to study)[†] and who do not meet standard entry requirements for other sub quotas. Intending applicants should obtain a copy of the *Non School Leavers* booklet from the Student Centre before lodging a SATAC application.

Indigenous Access

Places are also available under the Aboriginal and Torres Strait Islander Access Scheme. For further information please contact Wilto Yerlo, Centre for Australian Indigenous Research & Studies - **T:** (freecall) 1800 651 673 **E:** daniel.turner@adelaide.edu.au

* Applicants should note prerequisite/assumed knowledge statements for some academic programs.

[†] The age restriction is 19 years for those who have completed either the Flinders or UniSA Foundation Studies program or the UniSA Program for Adult Learners.

OVERSEAS QUALIFICATIONS

Overseas Year 12 and tertiary qualifications are assessed as a part of the normal processing of applications by SATAC.

DEFERMENT

All programs listed in this Program Information Leaflet may be deferred for one year. See the *SATAC University Guide* for more detailed information.

FEES AND CHARGES

In 2009 student contributions for Commonwealth supported students are:

Band 1 Humanities, Language, Music, Social Sciences	\$5201
Band 2 Agriculture, Design Studies, Computing, Health, Engineering	\$7412
Band 3 Commerce, Dentistry, Economics, Law, Medicine, Veterinary Science	\$8677
National Priorities Education, Mathematics, Nursing, Science	\$4162

Note: These fees are indicative only as actual charges are determined at the course/subject level based on the area of teaching. Fees listed are based on a student enrolled in a full time study load. Fees may increase in 2010.

HECS HIGHER EDUCATION LOAN PROGRAM (HECS-HELP)

HECS-HELP is a loan that helps eligible Commonwealth supported students to pay their student contribution.

Further information on Commonwealth Support and HECS-HELP is available at: www.goingtouni.gov.au

ADDITIONAL COSTS

Students may be required to provide specialist equipment/reading materials. Students are advised not to purchase any equipment until they receive their faculty/school handbook, available during Orientation Week.

APPLICATION PROCEDURES

Applications for admission are coordinated by the South Australian Tertiary Admission Centre (SATAC). Information is available from:

SATAC, 104 Frome Street, Adelaide SA 5000. Telephone: (08) 8224 4000

Closing dates for undergraduate programs for 2010:

Standard Entry	30 September 2009
Special Entry (STAT) test	30 October 2009

Late closing dates for 2010 (late fee charged):

Standard Entry	5 December 2009
Special Entry (STAT)	See SATAC Guide

Application Procedures for International Students

International students studying Year 12 in Australia should contact SATAC for information on application procedures. International students other than Year 12 students should submit any application through the University's International Office.

FURTHER INFORMATION

On application procedures, accommodation, fees and student services visit: www.adelaide.edu.au/student/future

On entry requirements visit: www.adelaide.edu.au/student/admission

On scholarships visit: www.adelaide.edu.au/stscholarships

The Student Centre serves as the first point of contact for all general and program enquiries. Our friendly and skilled staff will provide relevant information or put you in contact with Faculty staff for their expert advice.

The Student Centre

University of Adelaide, South Australia 5005

T: (08) 8303 7335

F: (08) 8303 4401

W: www.adelaide.edu.au/studentcentre/enquiries/

Freecall Hotline for country/interstate callers: 1800 061 459

DISCLAIMER

With an aim to continual improvement, the University of Adelaide is committed to regular reviews of the courses and programs it offers to students. As a result of this, the specific courses available to students may vary from year to year.

Updated information on the programs of study for specific certificates/diplomas/degrees and the courses available can be found at the following website: www.adelaide.edu.au/programs

The University of Adelaide assumes no responsibility for the accuracy of information provided by third parties.

Published June 2009 © The University of Adelaide.
CRICOS Provider No. 00123M