

# SECURE YOUR FUTURE

## COMPUTER AND NETWORK SECURITY AT VICTORIA UNIVERSITY (VU) OFFERED IN COLLABORATION WITH EDUCATION CENTRE OF AUSTRALIA (ECA) AT ECA'S SYDNEY CAMPUS

Victoria University offers a Computer Security stream as part of the postgraduate studies in the School of Computer Science and Mathematics. Prospective students do not require background knowledge in networks or security.

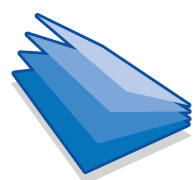
### WHY STUDY A VICTORIA UNIVERSITY COURSE?

Victoria University is one of Australia's premier teaching institutions, obtaining the highest possible score for our staff to student ratio in the 2008 "Good Universities Guide".

Staff in the School of Computer Science and Mathematics have established international reputations for teaching and research in cryptography and security, with courses taught locally and overseas. The School supports a high teacher to student ratio, and aims to provide a friendly atmosphere conducive to learning.

Staff supervise many research projects in security and cryptography, from Honours, through Masters to Doctorate level.

[WWW.ECA.EDU.AU/VUSYDNEY](http://WWW.ECA.EDU.AU/VUSYDNEY)



**ECA** Education  
Centre of  
Australia

in collaboration with



**VICTORIA  
UNIVERSITY**

**A NEW  
SCHOOL OF  
THOUGHT**

### WHAT JOBS ARE AVAILABLE IN COMPUTER AND NETWORK SECURITY?

Computer and Network Security is one of the hottest computer areas at the moment. Graduates can find employment in the banking and finance industries; in computer and network support; and in security analysis, training, auditing and implementation in the commercial, government or private sectors. There are also opportunities for employment with the telecommunications and defence industries.

### ENTRY REQUIREMENTS

Entry into the program is open to applicants with a first degree. Preference will be given to applicants whose degree contains major studies in a quantitative discipline. Other applicants whose occupation and experience indicate that they have the capacity to succeed may be accepted into the course as assessed by the VU course coordinator according to the VU policy.

The minimum English requirement for admission to the Graduate Diploma in Computer Science is an IELTS of an overall score of 6.5 (with no band less than 6.0) or equivalent. Equivalence is to be assessed by VU.

### PROFESSIONAL RECOGNITION

Graduates are eligible for membership of the Australian Computer Society at the professional level (which is the highest possible level for students) and the Institute of Mathematics and its Applications (UK).

## YEAR 1

### GRADUATE DIPLOMA IN COMPUTER SCIENCE

CRICOS PROVIDER NO. 02475D

COURSE CODE: SGCS

LOCATION: SYDNEY

INTAKES: FEBRUARY AND JULY

DURATION: TWO SEMESTERS

FEE: A\$9,000 PER SEMESTER

#### FIRST YEAR SUBJECTS (EQUIVALENT TO THE POSTGRADUATE DIPLOMA)

##### RCM5800: Object Oriented Programming GD1

This subject introduces students to problem solving with the aid of Java based computer programs. Emphasis is put on students' acquiring good programming techniques and writing programs of high quality using an Object Oriented programming language.

##### RCM5802: Information Systems

This subject covers the basic concepts of data modelling, designing a database, querying the database and maintaining the database. Students gain experience in working with a popular SQL database management system.

##### RCM5805: Communication and Networks

Students develop a clear understanding of how communications systems work and the standards used in modern data communication systems and computer networks.

##### RCM5811: Operating Systems

Students develop an understanding of the functionalities and characteristics of operating systems including processes and threads, mutual exclusion, CPU scheduling, deadlock, memory management, and file systems.

##### RCM5820: Network Operating Systems Administration

The unit of study provide an overview of computer networks operating systems. This will include architecture of a specific network operating system, components of network operating systems and their installation. Network administration, including performance monitoring and server tuning will be covered.

##### RCM5824: Object Oriented Programming GD2

This subject provides practice of object oriented programming and methodology using more advanced features and the application programming interface of the Java programming language. A deeper discussion is given of classes and objects along with exception handling, multithreading, file I/O and building GUI components.

##### RCM6812: Cryptography, Computer and Internet Security

An introduction to the theory of cryptography for computer security, emphasising the mathematics of cryptography, the algorithms involved with implementation, and appropriate uses of these algorithms.

##### RCM6844: Software Engineering 1

This subject reviews software engineering topics of software process and software life-cycle models, software process improvement, requirement, classical analysis and design, object oriented analysis and design.

## YEAR 2

### SUBJECTS TO BE COMPLETED TO GAIN THE MASTER OF SCIENCE IN COMPUTER SCIENCE

CRICOS PROVIDER NO. 00124K

COURSE CODE: SMCS

CAMPUS: FOOTSCRAY PARK, MELBOURNE

INTAKES: FEBRUARY AND JULY

DURATION: TWO SEMESTERS

FEE: A\$9,000 PER SEMESTER

#### SECOND YEAR SUBJECTS (MASTER'S LEVEL)

##### RCM6710: Internet Data Management 1

The subject introduces students from beginning Web applications, to object-oriented programming, to building Data-Driven Web applications and deploying an ASP.NET application. This subject will also address web server and database security. Students gain experience in developing a fully functional e-Commerce system.

##### RCM6813: Internet Security

The subject aims to introduce students to the principles and practices of secure computing over the Internet and other networks, with particular emphasis on the application of software to minimizing security risks.

##### RCM6823: Database Design, Management and Administration

This advanced database unit provides an insight into DBMS components such as distributed database design and management, services and multi-user architectures. The data base planning, transaction management, integrity and security provide the necessary skills required of a database administrator.

##### RCM6845: Object Oriented Technology

This subject covers the theory and practice of Internet object-oriented computing using Java-based technologies. Exploration of advanced Java object-oriented programming techniques and their distributed characteristics in the Internet environment includes such advanced Java features as JavaBeans, Internet programming, JDBC, servlets, JSP, JavaServer Faces and mobile computing.

##### RCM6106 and RCM6107: Thesis

The aim of 4-unit thesis is to enable students to competently research an area of study utilising knowledge and skills gained in previous studies of networks and security. The Thesis is a large project carried out by students on an individual basis. The project is expected to be an investigation of an approved topic, followed by analysis of the results. Towards the end of the project, a suitably formatted thesis must be submitted in which the topic is introduced and formulated, the investigation described in detail, results and conclusions from the study are elaborated, and an extended discussion present.