

Faculty of Information and  
Communication Technologies

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SWINBURNE  
UNIVERSITY OF  
TECHNOLOGY

# SECONDARY SCHOOL CURRICULUM ENRICHMENT PROGRAMS 2011

Supporting Schools

[swinburne.edu.au/ict/schools](http://swinburne.edu.au/ict/schools)

## Swinburne's Faculty of Information and Communication Technologies free educational programs are designed to enhance and enrich your students' learning.

### VCE IT Applications Day

This workshop has been designed by Swinburne's Faculty of ICT to enrich students' understanding of the IT Applications curriculum. Students will be shown examples of Networking hardware and will learn about the different types of security threats that affect systems.

Topics include:

- Networking
- Network Security
- Virtual Teams

**Dates:** Term 3 – 21 and 28 July, 2 and 4 August

**Time:** 9.30am–3.00pm

Lunch provided

Students will also find out about the different career pathways and employment opportunities in the ICT industry throughout the course of the day.

### VCE Software Development Day

This hands-on workshop for VCE Software Development students is based on the subject's curriculum. Students will be guided through a range of activities including a computer game-based problem where they will use NS diagrams and Pseudocode to create, test and implement an algorithm. Students will also be shown examples of networking hardware and will learn about the different types of security threats and how they affect systems.

Topics include:

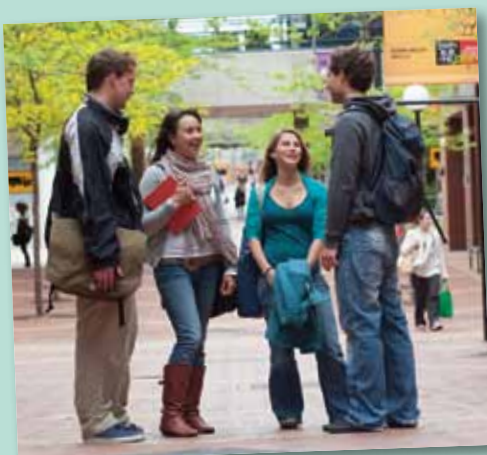
- Algorithms and Programming
- Networking
- Security

Students will also find out about the different career pathways and employment opportunities in the ICT industry throughout the course of the day, with a focus on the software development industry.

**Dates:** Term 3 – 19 and 26 July

**Time:** 9.30am–3.00pm

Lunch provided



### VCE Business Management (Units 3 and 4) Day

In today's global business world, organisations depend on ICT to achieve strategic goals and objectives. Students undertaking VCE Business Management (Units 3 and 4) are invited to attend this full-day workshop, designed to enrich their VCE studies and introduce them to tertiary level subjects, focusing on the application of Information Technology in business. We have developed workshops that take students through practical sessions including:

- Managing information and change – group activity
- Exploring business analysis software – computer lab
- Large-scale organisations and operations management – with industry guest speakers

Students will also have the opportunity to find out more about course and career options available.

**Dates:** Term 3 – 20 July

**Time:** 9.30am–3.00pm

Lunch provided

### VCE Physics Day (Telecommunications and Network Engineering)

This full-day program has been developed to enrich the studies of students undertaking Units 3 and 4 VCE Physics. This day will focus on VCE Physics Unit 4, with references to Unit 3 as prescribed in the study design.

Students will gain further knowledge in:

- Electronics
- Photonics
- Interactions of light and matter

In addition, students will be provided with real-world examples and demonstrations of how the laws of physics are applied to areas including optical fibres, networking and wireless networking. Students will hear from one of Swinburne's leading academics about the application of physics and the implications on online virtual worlds (such as Second Life).

**Date:** Term 3 – 27 July

**Time:** 9.30am–3.00pm

Lunch provided

### ICT School Holiday Program

This hands-on workshop for VCE IT Applications and/or Software Development students is based on the subject's curriculum.

Topics include:

- Games Programming
- Networking
- Security

Students will also find out about the different career pathways and employment opportunities in the ICT industry throughout the course of the day.

**Date:** 8 July

**Time:** 10.00am–2.00pm

Lunch provided

### Year 9, 10 and 11 Higher Achievers Day

This interactive program provides students in Years 9, 10 and 11 the opportunity to participate in a series of practical and engaging workshops designed to enhance their understanding of core ICT study areas. This program showcases new technologies and how they relate to future study choices. Teachers are invited to nominate Year 9, 10 or 11 high-achieving IT students to attend the day. Sessions include:

- Games Programming
- Viruses and Network Security
- Careers in ICT
- Information Systems

The program will conclude with a 3-D AstroTour in Swinburne's virtual reality theatre.

**Date:** Term 2 – 21 June. Term 4 – 10 November

**Time:** 10.00am–3.00pm

Lunch provided

### Exam Preparation Sessions

Students studying VCE IT Applications or VCE Software development are invited to attend an exam preparation session at Swinburne's Hawthorn campus. Each session will be presented by an experienced VCE IT teacher and will focus on specific areas of the IT Applications and Software Development curriculum. Students will also receive general advice on exam preparation. Students that did not have the opportunity to attend the VCE IT Applications Day or the VCE Software Development Day are encouraged to attend this session.

**VCE IT Applications session:**

**Date:** Wednesday 19 October

**Time:** 5.30pm–7.00pm

**VCE Software Development session:**

**Date:** Thursday 20 October

**Time:** 5.30pm–7.00pm

We welcome careers teachers and subject teachers to attend the sessions

## Off campus – at your school

**With dedicated staff to come to your school we can provide a range of activities from student panels to interactive presentations in the classroom. We have a range of exciting programs that we can bring to your school free of charge.**

### Courses and Career Pathways

The ICT industry continues to grow and change and Swinburne is committed to keeping schools up-to-date on these changes and trends. We have staff available to visit your school and deliver presentations on career pathways in ICT to suit your needs.

These presentations cover everything from careers to courses, emerging technologies and key employment growth areas. In addition to Swinburne academic staff; current Swinburne ICT students can provide their personal experiences on courses, Industry-Based Learning, Exchange programs and university life.

### Life after Year 12 – student panel

This session will feature a panel of students studying ICT at Swinburne. Students discuss the decision-making process that led them to choose their respective courses, their career aspirations, the transition from school to university life, and future employment opportunities. This is a wonderful opportunity for students to meet, hear from and ask questions of current university students.

### Women in ICT

This presentation is designed to provide an understanding and appreciation of women in the ICT industry. It also focuses on the vast career opportunities available to women in the ICT industry due to the under-representation of women in this field.



### Years 9 to 11 interactive ICT classes

Swinburne has a range of interactive programs that can be delivered at your school.

Our staff delivers a range of programs that enrich the VCE curriculum. We also offer interactive workshops to year 9 and 10 students to enhance their understanding of ICT.

#### ■ Web 2.0

A look at today's most popular websites, including Facebook, MySpace, YouTube and Bit Torrent, and the surprising logistics behind making them reality.

#### ■ Hacking, Cracking and Viruses

A look at the alarming increase of security threats in computer systems that affect home users and big corporations today. A Swinburne Network Design and Security academic will come to your school and show students how viruses and other security threats breach systems and how you can protect yourself.

#### ■ Online Game Developers

##### Defeating the Laws of Physics

This presentation (suitable for VCE Maths Methods, Specialist Maths and Physics students) looks at how high-speed internet access has enabled the illusions of multiplayer virtual worlds and how the speed of light constrains that illusion despite the best efforts of online game developers. Students will hear how real-world physics and today's underlying internet technologies affect the immersion experience of our virtual online worlds.

#### ■ SwinGame 2010

Swinburne's Software Development team has created a computer games design and development competition for all secondary school students. One of the competition creators will visit your school to present this initiative and introduce students to the concepts behind making games work.

#### ■ IT in Organisations

This session will cover the use of IT in organisations and discuss how goods are moved in the supply chain using Information Systems and Technology. This session is suitable for students with an interest in Business studies or ICT.

If you would like a specific presentation developed for your students, please contact Bianca van Meeuwen on (03) 9214 8768.

## School Resources

### SwinGame

As part of Swinburne's initiative to increase students' interest in and awareness of the technical, design, communication and teamwork skills involved in software development, the Faculty of Information and Communication Technologies has developed a computer games design competition for all secondary school students. The competition is an exciting opportunity for students to win great prizes, gain real-world experience in software and games development and work on a fun, creative project with friends. To give students a head start, we have developed a range of online tutorials that will help with the basics of games design.

For more details go to:  
[www.swingame.com](http://www.swingame.com)

### Vbugs

As part of Swinburne's effort to support secondary schools and enhance the profile of ICT, the Vbugs resource has been developed for all secondary schools to use for free. Vbugs is a resource for creating a game using the SwinGame Software Development Kit (SDK) and VB.NET. Its aim is to teach students the steps involved in programming in a fun but non-superficial manner.

### Curriculum Resources Online

To help support teachers and students in the classroom we have developed a wide range of resources for the VCE IT Applications and Software Development curriculum. These resources include online presentations on some of the fundamentals topics in the curriculum.

If you would like access to these resources contact Bianca van Meeuwen at [bvanmeeuwen@swin.edu.au](mailto:bvanmeeuwen@swin.edu.au)

To register for our programs,  
visit our website  
[swinburne.edu.au/ict/schools](http://swinburne.edu.au/ict/schools)

### Questions?

For more detailed and up-to-date information about any of our programs, please contact

Bianca van Meeuwen on:  
Telephone: (03) 9214 8768  
Email: [bvanmeeuwen@swin.edu.au](mailto:bvanmeeuwen@swin.edu.au)



The information contained in this brochure was correct at the time of printing (April 2010) but is subject to alteration or amendment without notice by Swinburne.

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### Teacher Professional Development

Swinburne will be working with schools and teachers to identify the most-needed areas of PD. If there is a particular area of PD you are interested in, please contact us and we will endeavour to assist you as best we can.

### Swinburne Astronomy Online – short course

A fully online short course in astronomy suitable for Science, Maths and Physics teachers! If you are interested in astronomy and want to learn more but don't have the time to do a semester-long course, this is the online course for you. This course will give you additional knowledge and expertise in astronomy to take back to your classroom to teach. This tailored short course is a six-week, non-assessed online course taught by professional PhD astronomers and is ideal for primary, secondary and college teachers.

Topics include:

- The Earth and the Moon
- The Solar System
- Our Sun and Other Stars
- The Milky Way and Galaxies
- The Universe and Cosmology

For more information visit:  
[astronomy.swinburne.edu.au/sao/shortcourse](http://astronomy.swinburne.edu.au/sao/shortcourse)

### Digital Divas – Year 8 Project

Digital Divas is a girls-only elective in the Year 8 program that involves 48 minutes each week over one semester. This school based program will build girls' ICT skills and confidence and increase their motivation to continue studying ICT.

### VCE Extension Studies

The Extension Studies program gives students the chance to study first year university units while completing Year 12.

To find out more about the program visit  
[swinburne.edu.au/extensionstudies](http://swinburne.edu.au/extensionstudies)

## Events

### 'Cool Grads' seminar

Have you ever wondered where ICT can take you? Join us for an afternoon session with Swinburne Graduates who will tell you about their 'cool' careers in ICT. From Games and animation through to eForensics. Expand your horizon and learn more about exciting careers in ICT.

The session will include a series of presentations where students will hear from and have the opportunity to talk to role models with ICT careers. Swinburne ICT graduates will share what their role involves, what made them choose ICT and the amazing opportunities ICT offers them.

**Date:** 28 April 2011

**Time:** 1.30pm - 4.30pm

### ICT Virtual Entrepreneurship Program

The ICT Virtual Entrepreneurship Program is designed to encourage and enhance the skills of young ICT entrepreneurs.

The information session will share the stories of young entrepreneurs in the ICT industry with the aim to inspire students to be creative and develop and share their innovative ICT ideas.

The program offers mentoring to aspiring entrepreneurs and assists in the areas of concept and product development, marketing and sales. The ICT Virtual Entrepreneurship program is an opportunity for students to interact with successful entrepreneurs and develop the necessary skills to become an ICT entrepreneur.

**Date:** May–October 2011

**Information session:** 21 May 2011

**Time:** 2.00pm–5.00pm

### AstroTours

AstroTours are 50-minute, guided journeys through the universe in 3-D. Using innovative virtual reality technologies, AstroTours are designed to educate and entertain audiences about astronomy in stereoscopic 3-D. Each AstroTour is hosted by a professional astronomer who adapts the content to the requirements and learning outcomes of the audience. AstroTours are recommended for audiences aged seven years or over, and are available for primary and secondary school groups as well as the general public.

**Date:** Ongoing

**Time:** 9.00am–3.00pm

**Cost:** \$7 primary, \$8.50 secondary

Come see us at  
**Swinburne Open Day**  
[swinburne.edu.au/openday](http://swinburne.edu.au/openday)