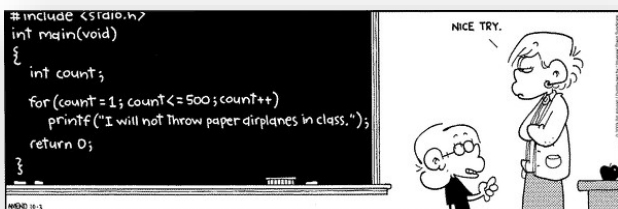# COMPUTER SCIENCE 3

Pre-Requisite: an A or B in Maths from grade ten

Pathways: courses or careers including programming, engineering, multimedia and the internet, artificial intelligence, systems and networks, or computer security.

Course Content

The primary focus of the course is problem solving and programming using an object oriented language in Java (Java applets).

Students will develop an understanding of problem solving (algorithm development), the software development life cycle (design, code, test, evaluate and refine), and some theory to support this and an understanding of computer architecture (binary number system, representation of data, logic and electronic circuits, and machine code). You will also be required to develop some understanding of social/ethical and professional responsibilities.

Assessment: internal assessment and a three hour external exam

SUBJECTS IN THIS AREA ARE

Computer Science 3

A subject based around learning to program in Java and the theory to support this.

Two versions of the Computing 2 package:

Computing 2 (System Management and Support)

A subject that looks at developing an understanding of Hardware, Operating Systems, Software and Networking

Computing 2 (Game Design)

A subject that looks at the developing an understanding of Game Development and its requirements.
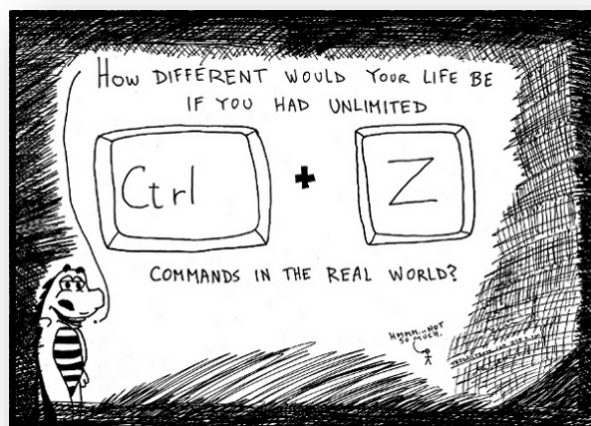
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COMPUTING

SUBJECTS

Department of Education
Hellyer College

COMPUTING 2 PACKAGES

There are no pre-requisites.

All assessment is internal

These packages are comprised of three subjects:

- Essential Skills - Using Computers and the Internet A (ESC205114)
- Computing Applications A (ICT205114) and
- Project Management A (PRJ205113)

Both packages are very practical in nature and will also include a focus on social and ethical issues.

They will also provide the **ICT tick**, for the **TCE**, if completed and include a focus on social and ethical issues.
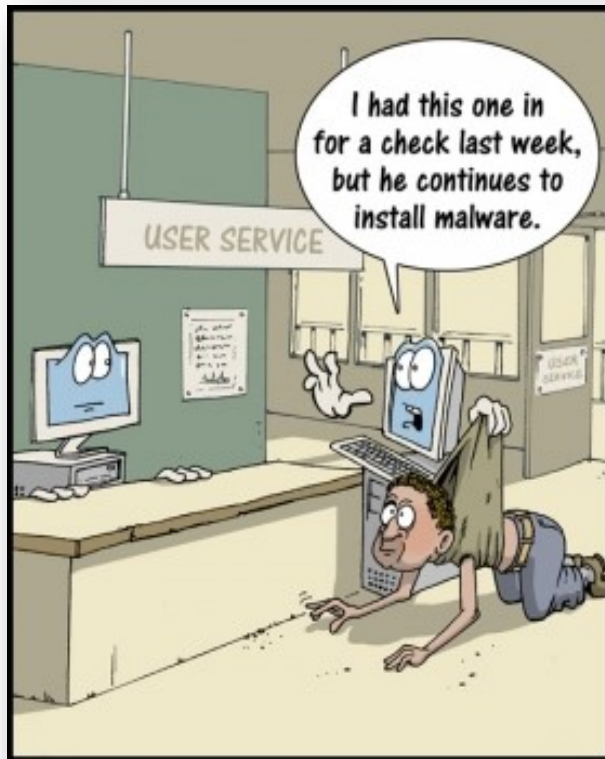
SYSTEM MANAGEMENT AND SUPPORT

This course focuses on setup and management issues that relate to computer use. You will develop knowledge and understanding of relevant concepts, for example:

- key components of a system (internal components such as motherboard, HDD, RAM, video, and monitors and printers)
- software (software installation and setup, operating systems, utilities)
- networking (addressing, networking media, networking devices, net operating systems)
- management (task management, working in a team, documentation, dealing with clients, operating procedures).

Types of activities will include

- Application of concepts to practical tasks:
- upgrade RAM, set up a small network
- configure aspects of an operating system
- solve simple client problems.

"Tech support says the problem is located somewhere between the keyboard and my chair."

GAME DESIGN

This course provides an introduction to the use of programming techniques and concepts using game development. You will develop knowledge and understanding of relevant concepts, for example:

- problem solving and planning
- language constructs (linear or object oriented)
- development of good programming habits
- user interfaces
- the concept of data types
- control sequences (branching, loops)
- available functions and procedures and their parameters.

Types of activities will include:

- skills in program planning and development (coding, editing etc.)
- flowcharts or storyboards
- game development environments

From: Argyle Sweater by Scott Hilburn GoComics.com