Penola
CATHOLIC COLLEGE
EST. 1995

INFORMATION TECHNOLOGY

Computing
Informatics
Software Development
Certificate III in IDMT - Game Programming (VET)
Certificate II and III in Business (VET)

INFORMATION TECHNOLOGY PATHWAYS

Year 9 and 10	Year 11	Year 12	Possible Careers
Year 9 *Programming Stream* My Program Rules Semester Course (elective)	**VCE** Units 1 & 2 Computing (Year 10 Acceleration option)	**VCE** Units 3 & 4 Informatics (recommended completion of units 1 & 2)	Database administrator, health information manager, IT educator, system analyst, system designer, website administrator, website developer.
Year 9 *Creative Stream* Creative IT Semester Course (elective)		**VCE** Units 3 & 4 Software Development (recommended completion of units 1 & 2)	Network administrator, network technician, programmer, software engineer, system administrator, system analyst, system designer, website developer.
Year 10 *Programming Stream* 2D Game Development Semester Course (elective) **Year 10** *Creative Stream* Creative IT Semester Course (elective)	**VET (2 Year Course)** Certificate III Information, Digital Media & Technology - Game Programming (Year 10 Acceleration option)	**VET (2 Year course)** Certificate III Information, Digital Media & Technology - Game Programming (full completion)	Computer programmer, game designer, game tester, 3D game engine developer, multimedia creator, interactive-technology creator.
Year 10 *Business Stream* Business IT Semester Course (elective)	**VET** Certificate II Business (full completion)	**VET** Certificate III Business (partial completion)	Accounts clerk, administration assistant, bank officer, call centre operator, human resources officer, receptionist.

YEAR 11 COMPUTING

The rapid pace of developments in digital systems, and the increasing availability of digitised data is having major influences on many aspects of society and the economy.

This study equips students with the knowledge and skills to be discerning users of digital systems, data and information and creators of digital solutions.

VCE Computing focuses on the application of a problem-solving methodology, and strategies and techniques for managing information systems in a range of contexts, to create digital solutions that meet specific needs.

The study examines the attributes of each component of an information system including people, processes, data and digital systems (hardware, software, networks), and how their interrelationships affect the types and quality of digital solutions.

VCE Computing provides a pathway to further studies in areas such as computer science, information systems, business, systems engineering, robotics, linguistics, logistics, database management and software development, and to careers in digital-technologies based areas such as information architecture, web design, business analysis and project management.

Unit 1

This unit focuses on how data, information and networked digital systems can be used to meet a range of users' needs.

Students collect primary data when investigating an issue and create a solution that graphically presents the findings.

They examine the technical underpinnings of wireless and mobile networks, and security controls to protect data.

Students acquire and apply their knowledge of information architecture and user interfaces, together with web authoring skills, when creating a website to present different viewpoints on a contemporary issue.

Development of knowledge and skills in Microsoft Excel and Adobe Dreamweaver.

Assessment: Unit 1

Graphical Solution

Networking Solution

Website Solution

Unit 2

The unit focuses on data and how the application of computational, design and systems thinking skills support the creation of solutions.

Students develop their thinking skills when using a programming language to create solutions.

They develop a sound understanding of data and how a range of software tools can be used to extract data from large repositories and manipulate it to create visualisations.

Students create a solution using database management software and explain how they are personally affected by their interactions with a database system.

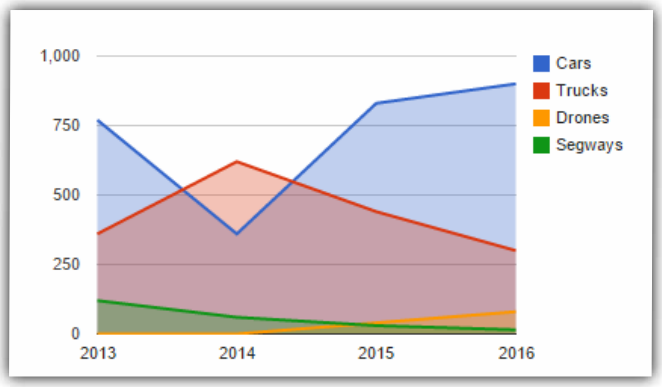
Development of knowledge and skills in Microsoft Excel, Access and Visual Basic.

Assessment: Unit 2

Programming Folio

Data Visualisation Solution

Database Solution



YEAR 12 COMPUTING

Informatics Unit 3:

This unit focuses on data and how it is acquired, managed, manipulated and interpreted to meet a range of needs. Students investigate interactive online solutions, such as websites and applications, and consider how users interact with these solutions. They examine how databases store and manipulate data. Students create diagrams that depict how users interact with online solutions, and acquire and apply knowledge and skills in the use of an RDBMS to create a solution.

Informatics Unit 4:

This unit focuses on strategies and techniques for manipulating, managing and securing data and information to meet a range of needs. Students design, develop and evaluate a multimodal, online solution. They use a project plan to monitor progress and assess the effectiveness of a project.

Development of knowledge and skills in Adobe Dreamweaver and Microsoft Access.

Assessment: Unit 3 & 4

- Database Solution
- Project Plan
- Website Solution
- Management Test

Software Development Unit 3:

This unit focuses on the application of a problem-solving methodology and underlying skills to create purpose-designed solutions using a programming language. Students develop a detailed understanding of the analysis, design and development stages and use a programming language to create working software modules.

Software Development Unit 4:

This unit focuses on how the information needs of individuals and organisations are met through the creation of software solutions used in a networked environment.

Development of knowledge and skills in Microsoft Visual Basic.

Assessment: Unit 3 & 4

- Prototype Programming Solution
- Analysis and Design Report
- Full Programming Solution
- Evaluation Security Test

CERTIFICATE III IN IDMT GAME PROGRAMMING (VET)

The VET IDMT Certificate III in Game Programming provides students with knowledge and skills needed to develop games using Unity 3D. It is designed to introduce the many career opportunities available for programmers in games, interactivity and creative industries. The certificate has been developed by AIE (Academy of Interactive Education) and is intended to give participants an understanding of skills and techniques necessary to create a range of fun, playable games.

Game programmers drive the game development process, creating the framework, functionality and interaction in the game. Regarded as the essential ingredient in the development process, game programmers are highly valued and continually in demand.

This certificate is offered to students at Year 11 and is designed to be continued in Year 12. As well as a study score, students will have full completion of Certificate III at the end of Unit 4.

Year 11 Core Modules:

- Operate application software packages
- Participate effectively in WHS communication and consultative processes
- Work and communicate effectively in an IT environment
- Produce digital images for the web
- Use social media tools for collaboration and engagement
- Run standard diagnostic test

Year 12 Modules:

- Use advanced features of computer programs
- Install, configure and secure a small office or home office network
- Maintain equipment and software
- Create user documentation
- Implement system software changes
- Install and optimise operating system software
- Provide IT advice to clients

Assessments: Units 1 to 4

Satisfactory completion for Units 1 – 4 is based on achievement of the set modules specified for each unit. Students could be assessed using the following:

- Workbook
- Work Performance Task
- Case Study
- Product Creation
- Test
- Examination

Contribution to final Assessment

Students wishing to receive a study score for Units 3&4 must undertake scored assessment.

- Coursework tasks contribute to 66% to the overall score.
- End of year examination contributes 34% to the overall score.

CERTIFICATE II AND III IN BUSINESS (VET)

The VET Business Certificate provides students with the basic knowledge and skills of communication, teamwork, use of business technology, processing of financial documents, and information handling, providing an entry point into business and the commercial world.

It is recommended for students wishing to gain employment as a clerical or administrative worker across all industries.

This certificate is offered to students at Year 11 and is completed in Year 12 with students at this level undertaking modules from the Certificate III course.

Year 11 Modules:

- Contribute to health and safety of self and others
- Communicate in the workplace
- Work effectively with others
- Produce simple word processed documents
- Organise and complete daily work activities
- Deliver a service to customers
- Process and maintain workplace information
- Handle mail
- Create and use spreadsheets
- Communicate electronically

Year 12 Modules:

- Organise personal work priorities and development
- Organise workplace information
- Design and produce business documents
- Deliver and monitor a service to customers
- Recommend products and services

Assessment: Units 1 to 4

Satisfactory completion for Units 1 – 4 is based on achievement of the set modules specified for each unit. Students could be assessed using the following:

- Workbook
- Work Performance Task
- Case Study
- Product Creation
- Test
- Examination

Contribution to final Assessment:

Students wishing to receive a study score for Units 3&4 must undertake scored assessment.

- Coursework tasks contribute to 66% to the overall score.
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