



Area of Study

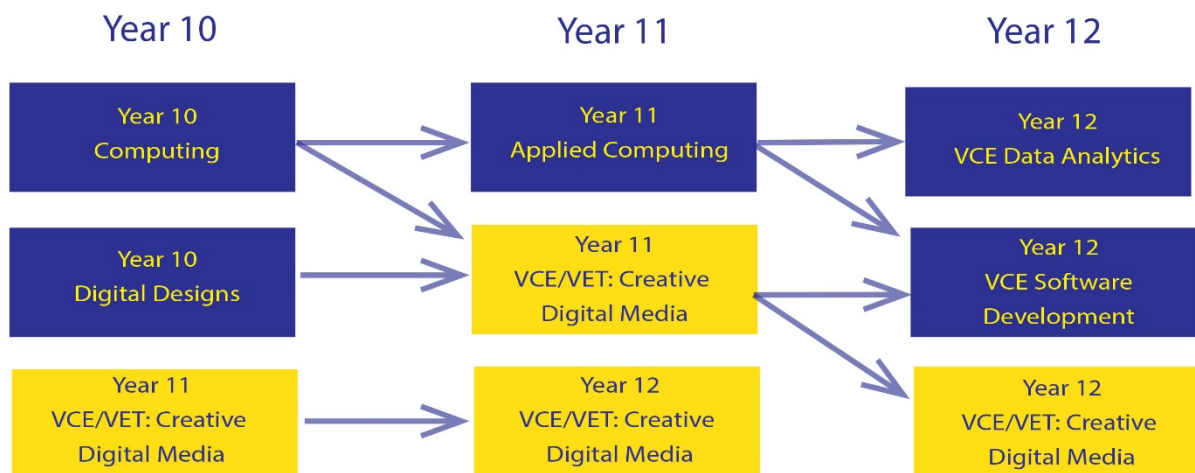
**Digital Technologies**

2021 Handbook

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## Pathway Information



## Year 10 Curriculum

### *Digital Technologies – Design*

**Semester:** Semester 1 or 2  
**Teacher:** [Mr Wilkie](#), [Mr Zhu](#) or [Mr Louk](#)

**Recommended Previous Studies:**

No Prerequisite

**Course Content:**

The year 10 Digital Designs course focuses on the digital design process with a strong emphasis on practical skills involving, page layout, vector design, image manipulation, animation, and website development. Students who are keen to develop skills for the digital media and design industry or are looking at the VET Certificate III in Creative Digital Media would find this course beneficial.

Students are introduced to a variety of software including: InDesign, Illustrator, Photoshop, Animate, Dreamweaver, and Fusion360. Through this software they will gain skills in manipulating, composing and enhancing still images and use these common techniques to create a portfolio of images for advertising or propaganda. Students will also design, draw and animate their own animation sequences. This will involve the use of some basic frame-by-frame animating techniques along with some more technical forms of animating found within the software.

To display the semester's work the above items will be combined into a website folio.

This unit is a skill-based course with a focus on the basics of the computer software and the compiling of these items combined into a digital folio/website.

This class aims to provide practical skills that will also enhance other subjects. These subjects include, but are not limited to, VCE Media, VCE Visual Communication and VCE Systems Engineering.

**Assessed Coursework:**

Students will be assessed through the completion of the following:

- Photoshop Assessment Task
- Website folio
- Animation Assessment Task
- 3D Modelling Task
- InDesign Task
- Examination

## *Digital Technologies – Computing*

**Semester:** Semester 1 or 2

**Teacher:** [Mr Zhu](#), or [Mr Wilkie](#)

**Recommended Previous Studies:**

No Prerequisite

**Course Content:**

The Computing course enables students to become confident and creative developers of digital solutions through the application of information systems and specific ways of thinking about problem solving.

Students acquire a deeper knowledge and understanding of digital systems, data and information and the processes associated with creating digital solutions so they can take up an active role in meeting current and future needs.

Students will complete a number of practical project tasks that will lead into year 11 and 12 VCE Applied Computing. This course includes an introduction to programming, information design, and computer hardware and software components.

This course aims to introduce the key concepts found in VCE Applied Computing and aims to create solid foundations for both Year 12 VCE subjects, Data Analytics and Software Development. Some of the skills developed will also enhance the VCE/VET Creative Digital Media Course.

**Assessed Coursework:**

Students will be assessed through the completion of the following:

- Excel skill folio and assessment task
- Web coding skill folio and assessment task
- Infographic tasks
- Programming Folio
- Exam

## VCE Curriculum

### *Applied Computing Unit 1*

Semester: Semester 1

Teacher: [Mr Denny](#)

**Recommended Previous Studies:**

No prerequisite

**Course Content:**

In this unit students are introduced to the stages of the problem-solving methodology.

In Area of Study 1, as an introduction to data analytics, students respond to a teacher-provided analysis of requirements and designs to identify and collect data in order to present their findings as data visualisations.

In Area of Study 2 students select and use a programming language to create a working software solution.

In Area of Study 3 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.

When creating solutions students need to apply relevant stages of the problem-solving methodology as well as computational, design and systems thinking skills.

**Assessed Coursework:**

In this Unit, student progress will be monitored and assessed through the use of:

- 2 major assessment tasks
- End of semester exam

## *Applied Computing Unit 2*

**Semester:** Semester 2

**Teacher:** [Mr Denny](#)

**Recommended Previous Studies:**

No prerequisite

**Course Content:**

In this unit students focus on developing innovative solutions to needs or opportunities that they have identified and propose strategies for reducing security risks to data and information in a networked environment.

In Area of Study 1 students work collaboratively and select a topic for further study to create an innovative solution in an area of interest.

In Area of Study 2, as an introduction to cybersecurity, students investigate networks and the threats, vulnerabilities and risks to data and information.

**Assessed Coursework:**

In this unit, student progress will be monitored and assessed through the use of:

- 2 Major Assessment Tasks
- End of semester examination

**Additional Information:**

This unit can be undertaken without completing Unit 1.

## *Software Development Units 3 & 4*

**Semester:** Semesters 1 & 2  
**Teacher:** [Mr Wilkie](#)

**Recommended Previous Studies:**

No prerequisite

**Course Content:**

In Software development Units 3 and 4 students focus on the application of a problem-solving methodology and underlying skills to create purpose-designed solutions using a programming language.

In Unit 3 students develop a detailed understanding of the analysis, design and development stages of the problem-solving methodology and use a programming language to create working software modules.

In Area of Study 1 students respond to given software designs and develop a set of working modules through the use of a programming language. Students examine a range of software design representations and interpret these when applying specific functions of a programming language to create working modules. In Area of Study 2 students analyse a need or opportunity, plan and design a solution and develop computational, design and systems thinking skills. This forms the first part of a project that is completed in Unit 4.

In Unit 4 students focus on how the information needs of individuals and organisations are met through the creation of software solutions used in a networked environment. They continue to study the programming language used in Unit 3.

In Area of Study 1 students further their computational thinking skills by transforming their detailed design prepared in Unit 3 into a software solution. They evaluate the efficiency and effectiveness of the solution in meeting needs or opportunities. They also assess the effectiveness of the project plan in monitoring project progress. In Area of Study 2 students apply systems thinking skills when explaining the relationship between two information systems that share data and how that dependency affects the performance of the systems.

**Assessed Coursework:**

In these Units, student progress will be monitored and assessed through the use of:

- 1 SAC per Unit.
- 1 SAT which is assessed in 2 parts, with 1 part being in each Unit
- End of year exam



## *Data Analytics Units 3 & 4*

Semester: Semesters 1 & 2  
Teacher: [Mr Denny](#) or [Mr Wilkie](#)

### **Recommended Previous Studies:**

No prerequisite

### **Course Content:**

In Informatics Unit 3 and 4 students focus on data, information and information systems.

Unit 3 students apply the problem-solving methodology to identify and extract data through the use of software tools such as database, spreadsheet and data visualisation software to create data visualisations or infographics.

In Area of Study 1 students respond to teacher-provided solution requirements and designs. Students develop data visualisations and use appropriate software tools to present findings. Appropriate software tools include database, spreadsheet and data visualisation software.

In Area of Study 2 students propose a research question, prepare a project plan, collect and analyse data, and design infographics or dynamic data visualisations. Area of Study 2 forms the first part of the School-assessed Task (SAT) that is completed in Unit 4, Area of Study 1.

In Unit 4 students focus on determining the findings of a research question by developing infographics or dynamic data visualisations based on large complex data sets and on the security, strategies used by an organisation to protect data and information from threats.

In Area of Study 1 students apply the problem-solving stages of development and evaluation to develop their preferred design prepared in Unit 3, Area of Study 2, into infographics or dynamic data visualisations, and evaluate the solutions and project plan. Area of Study 1 forms the second part of the School-assessed Task (SAT).

In Area of Study 2 students investigate security practices of an organisation. They examine the threats to data and information, evaluate security strategies and recommend improved strategies for protecting data and

### **Assessed Coursework:**

In these Units, student progress will be monitored and assessed through the use of:

- 1 SAC per Unit.
- 1 SAT which is assessed in 2 parts, with 1 part being in each Unit
- End of year exam

## **VET Program**

### *Certificate III in Screen and Media - CUA31015 (Creative Digital Media)*

For further course information refer to the VET handbook which is located on the Lavalla Catholic College website or alternatively contact [Mrs Howard](#) the VET Adviser.