VCE Applied Computing 2025–2028

Video 4

Background to Unit 2 Outcome 1
Applied Computing

VICTORIAN CURRICULUM AND ASSESSMENT AUTHORITY

VICTORIA State Government

Acknowledgement of Country

The VCAA respectfully acknowledges the Traditional Owners of Country throughout Victoria and pays respect to the ongoing living cultures of First Peoples.

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Purpose of this presentation

- Overview of Unit 2 Outcome 1 Applied Computing
- Major changes to Unit 2 Outcome 1
- Software tools
- Outcome statement
- Key knowledge
- Key skills
- Assessment tasks

Unit 2 Outcome 1

Changes to Unit 2 Outcome 1

- UN Sustainable Development Goals
- AI
- Frameworks
- Updated assessment tasks

Unit 2 Outcome 1

Software tools

Students are required to use the following software tool:

- Any software tools used to design and develop an innovative solution, such as a programming language, spreadsheet software, presentation software or tool for planning a project

Unit 2 Outcome 1

From the outcome statement

- In collaboration with other students, identify a problem, need or opportunity to analyse, design, develop and evaluate an innovative solution.

Unit 2 Outcome 1 – Key knowledge

- the role of curiosity, ingenuity and the United Nations' Sustainable Development Goals to inspire and drive innovation
- functions and capabilities of digital systems used by individuals and organisations, such as:
  - assistive technologies
  - financial services
  - global positioning system (GPS) devices
  - robotics
  - traffic management

Unit 2 Outcome 1 – Key knowledge

- the impact of emerging technologies, such as:
  - automation
  - cyberbullying
  - productivity
  - economic issues (deskilling, job loss, misuse)
  - the decline of physical human interactions and interpersonal skills

Unit 2 Outcome 1 – Key knowledge

- characteristics of creative and innovative solutions, such as:
  - originality
  - effectiveness
  - user-centred
  - disruptiveness
- solution specifications, such as:
  - functional and non-functional requirements
  - constraints
  - scope

Unit 2 Outcome 1 – Key knowledge

- methods for collecting data to determine user needs and requirements, such as:
  - interviews
  - surveys
- design tools and techniques for representing solution designs, such as:
  - mock-ups
  - pseudocode
  - sitemaps
  - storyboards

Unit 2 Outcome 1 – Key knowledge

- techniques for developing innovative solutions, such as:
  - empathising with the end-user
  - ideating for exploring multiple perspectives for a problem
  - generating a divergence of possible design ideas
  - developing the preferred design idea
- techniques for documenting the development of solutions, task delegation and monitoring project progress, such as:
  - Gantt charts
  - project journals
  - version control

Unit 2 Outcome 1 – Key knowledge

- techniques for testing and evaluating innovative solutions, such as:
  - user testing
  - expert review
- how emerging technologies are affected by key legislation and frameworks, such as:
  - Australia's Artificial Intelligence (AI) Ethics Principles
  - *Copyright Act 1968* (Cwlth)
  - *Health Records Act 2001* (HPP 1, 2, 5)
  - *Privacy Act 1988* (Cwlth) (APP 1, 2, 6)
  - *Privacy and Data Protection Act 2014* (IPP 1, 2, 5, 8)

Unit 2 Outcome 1 – Key knowledge

- ethical issues arising from the development of emerging technologies, such as:
  - cyber security threats
  - biometric systems collecting and storing data
  - job displacement
- ethical issues arising from the use of artificial intelligence, such as:
  - creating content that is biased, discriminatory or otherwise harmful
  - creating content that could be used for cyber attacks
  - generating content from existing copyright materials
- evaluation criteria and techniques for evaluating the efficiency and effectiveness of innovative solutions.

Unit 2 Outcome 1 – Key skills

- investigate a problem, need or opportunity and identify potential users and purpose
- propose and apply a range of methods to collect data for analysis
- analyse and document solution requirements to develop an innovative solution
- select and use appropriate design tools for generating solution designs
- develop an innovative solution using appropriate digital systems
- document the development of an innovative solution
- design and apply suitable testing techniques
- identify and discuss potential legal and ethical issues affecting the development of an innovative solution
- apply evaluation criteria and evaluate the efficiency and effectiveness of an innovative solution to meet a problem, need or opportunity.

Unit 2 Outcome 1 – Assessment task

Suitable tasks for assessment in this unit may be selected from the following:

- An innovative solution that includes an analysis, designs, the development of a proof of concept/prototype/product and an evaluation.
- A presentation (oral, multimedia, visual) of an innovative solution.
- A written report that documents the development of an innovative solution.
- An annotated visual report that documents the development of an innovative solution.

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