VCE Applied Computing 2025–2028

Video 2

Background to Unit 1 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.

VCE Applied Computing 2025–2028

Video 2

Background to Unit 1 Outcome 1
Applied Computing

VICTORIAN CURRICULUM AND ASSESSMENT AUTHORITY
VICTORIA State Government

Purpose of this presentation

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

Unit 1 Outcome 1

Changes to Unit 1 Outcome 1

- SQL
- Updated assessment tasks

Unit 1 Outcome 1

Software tools

Students are required to use the following software tools:

- Database software
- Spreadsheet software
- Data visualisation software
- An appropriate tool for running Structured Query Language (SQL) queries

Unit 1 Outcome 1

Outcome statement

- Interpret teacher-provided solution requirements and designs, analyse data and develop data visualisations to present findings.

Unit 1 Outcome 1 – Key knowledge

- types and purposes of qualitative and quantitative data, such as:
  - interviews and surveys to gather insights/perspectives on a topical issue
  - sensor data to monitor a person's health
  - census and demographic data for statistical analysis
  - data collected over a period of time
  - data generated by artificial intelligence
- characteristics of data types relevant to the selected software tools, such as:
  - text (character, string)
  - numeric (integer, floating point, date/time)
  - Boolean

Unit 1 Outcome 1 – Key knowledge

- factors affecting the quality of data and information, such as:
  - accuracy
  - bias
  - integrity
  - relevance
  - reliability
- characteristics of data and information, such as:
  - size
  - structure
  - relevance
  - accessibility
  - clarity
  - context

Unit 1 Outcome 1 – Key knowledge

- techniques for applying the Australian Privacy Principles (APPs) in the *Privacy Act 1988* (Cwlth) relating to the use, management and communication of data and information, such as:
  - non-identification of individuals (APP 2)
  - information only being held for its primary purpose (APP 6)
  - security measures used to protect personal information (APP 11)
- ethical issues arising from the management and communication of data and information, such as:
  - lack of transparency
  - use of inaccurate or incomplete data
  - ownership and control of data
  - misuse of personal data and information
  - repurposing and sharing of data by artificial intelligence systems

Unit 1 Outcome 1 – Key knowledge

- referencing primary and secondary data and information using the American Psychological Association (APA) referencing system to acknowledge intellectual property
- characteristics of functional and non-functional requirements, constraints and scope
- design tools for representing the functionality and appearance of databases, spreadsheets and data visualisations, such as:
  - input-process-output (IPO) charts
  - annotated diagrams
  - mock-ups
  - query designs

Unit 1 Outcome 1 – Key knowledge

- structural characteristics of relational database management systems (RDBMS), such as:
  - tables
  - queries
  - relationships using primary and foreign keys
- structural characteristics of spreadsheets, such as:
  - rows and columns
  - cells
- software functions and techniques for efficiently and effectively manipulating, validating and testing data to develop databases, spreadsheets and data visualisations, such as:
  - formulas and functions
  - charts and graphs
  - use of SQL to generate queries

Unit 1 Outcome 1 – Key knowledge

- use of spreadsheets to calculate descriptive statistics for analysis, such as:
  - average
  - median
  - count/frequency
  - standard deviation
- purposes of data visualisations for educating, entertaining, informing and persuading audiences
- types of data visualisations, such as:
  - infographics (long-form)
  - series of posters of infographics
  - dashboards

Unit 1 Outcome 1 – Key knowledge

- components of data visualisations, such as:
  - text and graphics
  - tables
  - charts and graphs
- formats and conventions suitable for databases, spreadsheets and data visualisations, such as:
  - consistent naming conventions for databases (database name, table name, column name, primary key, foreign key)
  - consistent naming conventions for spreadsheets (worksheet names, header labels for rows, header labels for columns)
  - use of colours, fonts, images and icons.

Unit 1 Outcome 1 – Key skills

- interpret solution requirements, constraints and scope
- interpret designs using appropriate design tools to represent the functionality and appearance of databases, spreadsheets and data visualisations
- explore data and information from primary and secondary sources, taking into account legal and ethical considerations
- use the APA referencing system to acknowledge intellectual property
- conduct statistical analysis to identify trends and patterns
- select and apply functions, formats, conventions, data validation and testing techniques to efficiently manipulate data and create data visualisations.

Unit 1 Outcome 1 – Assessment tasks

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

- A folio of exercises to demonstrate the learning of database, spreadsheet and data visualisation software tools.
- A solution including the use of database, spreadsheet and data visualisation software tools in response to teacher-provided solution requirements and designs.
- A personal portfolio to showcase the development of databases, spreadsheets and data visualisations.

Contact

- Phil Feain – Digital Technologies Curriculum Manager (VCAA)
- Ph: (03) 9059 5146
- Philip.Feain@education.vic.gov.au

Authorised and published by the
Victorian Curriculum and Assessment Authority