# VCE Applied Computing 2025–2028

Video 2

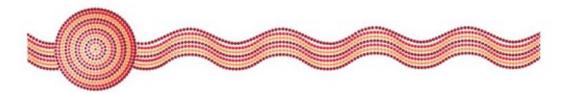
Background to Unit 1 Outcome 1 Applied Computing





#### **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





#### 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.



- 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





- 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





- 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





- 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





- 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





- 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





- 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.





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