VCE Applied Computing: Data Analytics: Software tools and functions

The VCE Applied Computing Study Design (2020–2024) mandates software tools and functions that students are to use when developing software solutions. For 2022, schools must use these software tools and functions as the basis for choosing appropriate database, spreadsheet and data visualisation software for study.

Students use other software tools for documenting project plans and capturing data, but there is not a mandated list of functions for these.

In Unit 3 Area of Study 1, students study and use:

* database software
* spreadsheet software
* data visualisation software.

In Unit 4 Area of Study 1, students study and use:

* database software and/or spreadsheet software
* data visualisation software.

Software functions

The following is a list of software functions for each of the software tools that are studied and used, and that students are expected to be able to apply. Note that this list is not exhaustive; learning does not have to be confined to the functions listed.

For School-based Assessment, tasks set by teachers should be realistic and allow discrimination between student performances. When designing assessment tasks for those outcomes that require the use of software tools, not all of the listed functions need to be demonstrated when solving problems.

For assessment purposes, students must be familiar with all of the listed functions for the mandated software tools.

Unit 3 and Unit 4: Database software

Students are expected to apply functions that provide the ability to:

* create tables
* create relationships between tables (for RDBMS)
* use a range of data types
* validate data
* create, edit and use queries
* search and filter records
* perform calculations
* create and edit formatted reports
* sort records or index on different fields
* import and export data
* secure data.

Unit 3 and Unit 4: Spreadsheet software

Students are expected to apply functions that provide the ability to:

* create worksheets
* create links between worksheets
* use a range of data types
* validate data
* create, edit and use charts
* perform calculations using a range of functions (SUM, COUNT, MAX, MIN, AVERAGE, SUMIF, COUNTIF)
* use LOOKUP functions
* conditional formatting
* sort and filter data
* import and export data
* secure data.

Unit 3 and Unit 4: Data visualisation software

Students are expected to apply functions that provide the ability to:

* create/select a range of shapes
* create/select a range of chart types
* use symbols/images/charts
* show relationships and patterns
* enter, edit and format text and other content
* use colour/shading
* use of animation in charts (showing movement or changes in response to user input).

In the development of dynamic data visualisations, the chosen data visualisation software tool should provide users with the ability to interact with the data visualisation in order to identify meaning.

Teachers of VCE Data Analytics should note that the Software tools and functions may be revised for 2023 and notification will be published in the [*VCAA Bulletin*](https://www.vcaa.vic.edu.au/news-and-events/bulletins-and-updates/bulletin/Pages/index.aspx).