VCE Applied Computing: Software Development: Programming requirements

The VCE Applied Computing Study Design (2020−2024) mandates programming requirements that students are to use when developing working modules and purpose-designed solutions. For 2022, schools must use these requirements as the basis of choosing a programming language for study.

For assessment purposes, students must be familiar with all of the listed programming requirements; however, not all requirements must be addressed in each task. Teachers are expected to select the appropriate requirements based on the key skills outlined in the study design.

Students may choose to develop their software solution for the School-assessed Task in Unit 4 Outcome 1 using an alternative programming language to that studied in Unit 3 Outcome 1. However, teachers must consider the following before supporting this approach:

* whether the proposed alternative programming language meets the programming requirements of the study
* whether students can demonstrate proficiency with the proposed programming language prior to the commencement of the School-assessed Task
* the ability for the teacher to support the student’s use of the proposed programming language
* the ability for the teacher to interpret the code documented using the proposed programming language.

It should be noted that while modules and solutions can be created in one language, other languages may be used to embellish its features.

In the development of the working modules and software solution, the chosen programming language should provide students with the ability to carry out the development stage of the problem-solving methodology within three conceptual layers: interface, logic and data source.

Interface

The chosen language must enable students to develop a graphical user interface for use in a digital system through one or more of the following options:

* an Integrated Development Environment (drag and drop/WYSIWYG)
* using code (same language)
* using code (a supporting language).

Note that databases are not considered part of the interface layer.

Logic

Programming requirements for the logic layer:

* construct and use data structures
* design and apply data validation techniques
* use program control structures: selection, iteration and sequencing
* use modularisation and code optimisation
* use classes, functions, methods and event-driven programming functions.

Data source

Programming requirements for the data source layer:

* read data from external sources, such as files and databases (local or cloud-based)
* write data to external sources, such as files and databases (local and cloud-based).

The following file formats that can be used are:

* delimited (CSV)
* plain text (TXT)
* XML.

Teachers of VCE Software Development should note that the programming requirements 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).