VCE Applied Computing: Software Development: Programming requirements

The VCE Applied Computing Study Design (2020−2023) mandates programming requirements that students are to use when developing working modules and purpose-designed solutions. 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
* 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.

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

Programming requirements for the interface layer:

* develop a graphical user interface (GUI), for use in digital systems such as desktop computers, laptops, tablets, smart phones, gaming consoles, robotic devices and smart home devices.

Note that databases are not to be used in 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, methods and event-driven programming functions.

Data source

Programming requirements for the data source layer:

* design, construct and use external storage and access technologies
* retrieve data from external sources.

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

Teachers of VCE Applied Computing: Software Development should note that the list of programming requirements is considered each year and the publication of the list will be announced annually in the *VCAA Bulletin*.