VCE Computing: Informatics 2016–2019

School-assessed coursework and task report

This report is provided for the first year of implementation of this study and is based on the coursework audit and VCAA statistical data.

Units 3 and 4

General Comments

In 2016 the new VCAA Computing study design was implemented. Units 3 and 4 Informatics now consists of both School-assessed Coursework (Unit 3, Outcome 1 and Unit 4, Outcome 2) and a School-assessed Task (Unit 3, Outcome 2 and Unit 4, Outcome 1).

Specific information

Unit 3 School-assessed Coursework

Outcome 1: Organisations and data management (SAC)

**Outcome statement**

On completion of this unit the student should be able to design a solution, develop it using a relational database management system, and diagrammatically represent how users interact with an online solution when supplying data for a transaction.

Task type options

In response to a design brief that includes an analysis of a need or an opportunity and a data set:

* the design and development of a relational database management system solution. (90 marks)

**and**

In response to a design brief that includes a description of the online transaction requirements of an organisation and its data protection techniques:

* an annotated, diagrammatic representation of a user’s interactions with an online solution when conducting a transaction and the user interface for the page that initiates the transaction. (10 marks)

In Unit 3 Outcome 1, commercially produced products were used in approximately 80 per cent of the further evidence submitted by schools. The VCAA does not endorse any commercially produced tasks and it is expected that any such product is rigorously checked against the Outcome statement, key knowledge, key skills and assessment advice. In the majority of schools, these commercially produced products were not cross-checked against the VCE Computing study design.

Some assessment tasks were adapted from the *Information Technology: Applications Study Design 2011–2015* and these were generally not compliant. Frequently the relational database management system did not involve the data that would typically be used in an interactive online solution. This then created an issue with the production of a suitable user flow diagram.

In Unit 3 Outcome 1 (Task 2), students are required to use software and diagrammatically represent the user’s interactions with an online solution (user flow diagram) and the user interface of the page that initiates the transaction (landing page). In a number of cases, students were not required to produce both diagrams. Also the level of detail given in the design brief for the user flow diagram was too specific and excessive and clearly mapped out the answer for the students.

The average time allocated to the completion of the Unit 3 Outcome 1 assessment task was 440 minutes; however, this did range from 300 minutes to 1000 minutes across schools.

In Unit 3 Outcome 1 issues included:

* a data set was not provided for the students
* templates for design and/or testing were supplied to students; therefore the students were not required to ‘select and apply’ the tools and techniques
* some of the requirements of the task sat outside the scope of Unit 3, Outcome 1 and this altered the mark allocation; for example physical and software security measures and the design of a web based interface in Task 2.

Areas that were well addressed included:

* design briefs that were appropriate to the design and development of a RDBMS
* the use of software tools to represent the user flow diagrams
* the supplying of data sets that needed to be normalised.

The majority of schools used the VCAA performance descriptors in conjunction with a commercially produced marking scheme to assess the task. On submission, these marking schemes were generally successful and correctly weighted. The weightings were appropriate and would reflect sufficient depth, complexity and detail in the task.

Schools that, however, developed their own marking scheme, without referring to the performance descriptors, were generally not compliant. There were instances when some of the requirements of the task sat outside the scope of Unit 3, Outcome 1 and this would have altered the mark allocation.

Unit 3 School-assessed task

Outcome 2: Data analytics: drawing conclusions (SAT)

Outcome statement

On completion of this unit the student should be able to use a range of appropriate techniques and processes to acquire, prepare, manipulate and interpret complex data to confirm or refute a hypothesis, and formulate a project plan to manage the progress of the project.

Task type options

**Nature of task**

A short report that sets out a statement of a student-generated hypothesis, the conclusion that has been drawn and an outline of the findings supporting the conclusion

**and**

A collection of data sets, and information derived from them, that allows a conclusion to be drawn about the hypothesis and evidence of:

* the specifications for creating the information
* acknowledgment of intellectual property
* the validation and manipulation processes and techniques used
* the methods used to secure stored and communicated data and information

**and**

A project plan (Gantt chart) indicating times, resources and tasks.

Unit 3 Outcome 2 is the first part of the School-assessed Task (SAT).

The School-assessed Task (SAT) must be assessed through the VCAA assessment rubric, which comprises four criteria worth 10 marks each:

1. Depth of understanding of formation of a hypothesis and coherence of a conclusion
2. Skills in acquiring, validating and referencing data
3. Skills in organising, manipulating and securing data and information
4. Depth of understanding of project management concepts and processes.

The majority of schools were aware, and were using, the VCAA assessment rubric; however, there were exceptions and some schools had developed their own marking schemes. These schools progressed to Stage 3 of the audit. Generally, schools could explain how they applied the different levels of performance within the rubric to ascertain a final mark for each criterion.

Most schools used commercially produced School-assessed Task (SAT) guides. Once again, the VCAA does not endorse any commercially produced task and it is expected that any such product is rigorously checked against the Outcome statement, key knowledge, key skills, assessment advice and the VCAA assessment rubric.

The time allocated for the teaching of Unit 3 Outcome 2 School-assessed Task and the completion of each SAT component are individually developed by each school. The time allocated for both activities varied significantly between schools. For example, the time allocated for the collection of data (Criterion 2) for the SAT ranged from 75 minutes to 585 minutes and the time allocated to the development of the project plan (Criterion 4) ranged from 45 minutes to 225 minutes.

All schools should review all teaching, learning and assessment practices for 2017 to ensure that their students have the opportunity to achieve at the highest possible level.

Schools were aware of the necessity to use the VCAA authentication record and teacher additional comment sheet.

Areas that were well addressed included:

* awareness of the VCAA assessment rubric
* knowledge of the first four SAT criteria
* awareness of the VCAA authentication and assessment requirements.

Unit 4 School-assessed Task

Outcome 1: Data analytics: presenting the findings (SAT)

Outcome statement

On completion of this unit the student should be able to design, develop and evaluate a multimodal online solution that confirms or refutes a hypothesis, and assess the effectiveness of the project plan in managing progress.

Task type options

Nature of task

A folio of two or three alternative design ideas and the detailed design specifications of the preferred design.

**and**

A multimodal online solution that communicates the confirmation or refutation of a hypothesis as detailed in Unit 3

**and**

* An evaluation of the effectiveness of the solution
* An assessment of the effectiveness of the project plan (Gantt chart) in monitoring project progress

In one of the following:

* a written report
* an annotated visual plan.

Unit 4 Outcome 1 is the second part of the School-assessed Task (SAT). Students are required to design, develop and then evaluate a multimodal online solution based on their hypothesis as well as assessing their project plan. The multimodal online solution must be suitable for educating a world-wide audience. It must be assessed through the VCAA assessment rubric and is comprised of four criteria, worth 10 marks each:

1. Skills in generating design ideas and designing preferred solutions
2. Skills in communicating information to educate a worldwide audience through a multimodal online solution
3. Skills in technically developing a multimodal online solution that confirms or refutes a hypothesis
4. Understanding of strategies for evaluating the effectiveness of a multimodal online solution and assessing the effectiveness of the project plan in monitoring progress

It was evident in Unit 4 that the majority of schools were familiar with the VCAA assessment rubric and were comfortable using it to assess their students. It was also evident that the majority of the content was well understood, with a few minor exceptions as detailed earlier.

Most schools supplied their students with a commercially produced School-assessed task (SAT) guide. Once again, the VCAA does not endorse any commercially produced task and it is expected that any such product is rigorously checked against the Outcome statement, Key knowledge, Key skills, assessment advice and the VCAA assessment rubric.

The class time allocated to the completion of the Unit 4 Outcome 1 School-assessed Task (SAT) varied immensely from school to school. On average, students were allocated 4½ hours to prepare the Design folio (Criterion 5), six hours for the multimodal online solution (Criteria 6 and 7) and three hours for the evaluation (Criterion 8).

The amount of time allocated to the teaching and learning for each area also varied considerably. For example, it was stated that between one and eight weeks were allocated for teaching all key knowledge and skills for the multimodal online solution (Criteria 6 and 7), and the time for the evaluation (Criterion 8) ranged from half a week to six weeks.

Schools should review all teaching, learning and assessment practices for 2017 to ensure that their students have the opportunity to achieve at the highest possible level.

Areas that were well addressed included:

* knowledge of the second four SAT criteria
* application of the SAT criteria against the VCAA assessment rubric
* most theory components as outlined in the study design
* awareness of the VCAA authentication and assessment requirements.

Unit 4 School-assessed Coursework

Outcome 2: Information management (SAC)

Outcome statement

On completion of this unit the student should be able to compare and contrast the effectiveness of information management strategies used by two organisations to manage the storage and disposal of data and information, and recommend improvements to their current practices.

Task type options

A written report

**or**

An annotated visual report (100 marks)

In Unit 4 Outcome 2, commercially produced products were used in 100 per cent of the Further Evidence submitted by schools. VCAA does not endorse any commercially produced assessment tasks and it is expected that any such product is rigorously checked against the outcome statement, key knowledge, key skills and assessment advice.

Schools that cross-checked the commercial products against the study design and made minor alterations were deemed compliant. It is important that in the design brief, the descriptions identify both effective and ineffective information management strategies for both organisations so that students can compare and contrast these strategies.

The average time allocated to the completion of the Unit 4 Outcome 2 assessment task was 100 minutes; however, this did range from 45 minutes to 270 minutes across schools.

Issues with the assessment tasks included:

* Undue mark allocations being given to aspects of the task. It is suggested that teachers use the VCAA assessment rubric for guidance.
* The design brief not outlining both effective and ineffective information management strategies for both organisations.
* Disposal of information was not satisfactorily addressed.

In cases where a submission did not meet VCAA requirements, the reasons for this were:

* the information management strategies of two organisations were not compared and contrasted
* an incorrect task type was used
* inappropriate weighting of marks.

Areas that were well addressed included:

* The design briefs explained the information management strategies of the two organisations and allowed students to compare and contrast these strategies.
* Criteria were developed to evaluate the effectiveness of the information management strategies.

The majority of schools used the VCAA performance descriptors in conjunction with a commercially produced marking scheme to assess the task. On submission, these marking schemes were generally successful and correctly weighted. The weightings were appropriate and would reflect sufficient depth, complexity and detail in the task.