VCE Applied Computing: Data Analytics: Administrative information for School-based Assessment in 2025

School-assessed Task

The School-assessed Task (SAT) contributes 30 per cent to the study score.

Teachers will provide to the Victorian Curriculum and Assessment Authority (VCAA) a score against each criterion that represents an assessment of the student’s level of performance for Unit 3 Outcome 2 and
Unit 4 Outcome 1. The recorded scores must be based on the teacher’s assessment of the student’s performance according to the criteria on pages 8–17. This assessment is subject to the VCAA’s statistical moderation process.

The 2025 VCE Applied Computing: Data Analytics assessment sheet on page 21 is to be used by teachers to record the SAT score. The completed assessment sheet for each student’s SAT must be available on request by the VCAA.

The mandated assessment criteria are published annually on the Applied Computing: Data Analytics study page of the VCAA website and notification of their publication is given in the February *VCAA Bulletin*.

Details of authentication requirements and administrative arrangements for School-assessed Tasks are published annually in the [*VCE Administrative Handbook 202*](https://www.vcaa.vic.edu.au/administration/vce-vcal-handbook/Pages/index.aspx)*5*.

The Authentication record form on pages 19–20 is to be used to record information for each student and must be made available on request by the VCAA.

The SAT has seven components. They relate to:

* Unit 3 Outcome 2 (five components)
* Unit 4 Outcome 1 (two components).

Teachers should be aware of the dates for submission of scores into VASS in July and October. These dates are published in the [2025 Important Administrative Dates and 2025 Scored Assessment Schedule](file:///E%3A%5C2024%5CVCAA%20Documents%5CVCE%20Administrative%20information%5Cvcaa.vic.edu.au%5Cpages%5Cschooladmin%5Cadmindates%5Cindex.aspx), published annually on the VCAA website.

Unit 3

Data analytics: analysis and design

Outcome 2

Propose a research question, formulate a project plan, collect and prepare data, and generate design ideas and a preferred design for creating infographics and/or dynamic data visualisations.

Nature of task

A documented research question and a project plan (Gantt chart) indicating tasks, time, milestones, dependencies and the critical path

**And**

An analysis that defines the requirements, constraints and scope of infographics and/or dynamic data visualisations

**And**

A collection of complex data sets that has been referenced

**And**

A folio of design ideas and evaluation criteria

**And**

Detailed design specifications of the preferred design.

Time allocated should be at least 8–10 weeks of class time.

Scope of task

Development of a research question and project plan

Criterion 1 assesses students’ skills in developing a research question and in project management. Students will document a research question. Further details regarding the process of developing a research question is in the *Support material*.

Teachers should have discussions with their students regarding their research question and have a process for approving the research question before students commence their project plan. Students are encouraged to document their ideas to convince their teacher that they will be able to develop the infographics and/or dynamic data visualisations. Teachers should not provide individual students or classes with research questions. Students are to generate their own research questions.

Students will prepare a Gantt chart using an appropriate software tool that documents all the stages and the activities of the problem-solving methodology for Unit 3 Outcome 2 and Unit 4 Outcome 1 (both parts of the SAT).

Students will need to document all the relevant tasks, sequencing, time allocations, milestones, dependencies and critical path.

The evidence from this task is observed through Observation 1 and assessed through Criterion 1.

Once the project plan has been developed, it needs to be monitored, modified and annotated during the life of the project (both Unit 3 Outcome 2 and Unit 4 Outcome 1). It will then be assessed as part of Criterion 10 in Unit 4 Outcome 1.

Documentation of the analysis

Criterion 2 assesses students’ skills in documenting the analysis. Students will document the data they have collected and used to inform the analysis of the research question. They also document the methods and techniques they have used to collect the data and reference how the data collected meets the characteristics of data integrity. Students then document the functional and non-functional requirements, constraints and scope of the infographics and/or dynamic data visualisations. An example of an outline for developing a research question around the requirements, constraints and scope is in the *Support material*.

Students will document evidence of their critical and creative thinking through critical analysis, the use of questions and follow-up questions to clarify the development of the solution requirements, constraints and scope. This is completed as part of the Analysis stage in Criterion 2. Refer to the Skills underpinning the Analysis stage in the Units 1 to 4: Problem-solving methodology specifications on page 18 of the study design.

The evidence from this task is observed through Observation 2 and assessed through Criterion 2.

Searching, collecting, manipulating, referencing and managing data

Criterion 3 assesses students’ skills in searching, collecting, manipulating, referencing and managing data. Students will acquire data sets from primary and secondary sources using appropriate data acquisition methods, prepare the quantitative and qualitative data for manipulation using data types and data structures and reference the primary and secondary data sources using the APA referencing system. They will then document a plan for managing their data and files.

The evidence from this task is observed through Observation 3 and assessed through Criterion 3.

Generating design ideas and developing evaluation criteria

Criterion 4 assesses students’ skills in generating design ideas and developing evaluation criteria. Students will generate design ideas for the database, spreadsheet and infographics and/or dynamic data visualisations solutions. Design ideas are to be annotated to explain the appearance and functionality of the software solutions. They will also develop evaluation criteria for their design ideas and the infographics and/or dynamic data visualisations solutions. Evaluation criteria will reference the functional and non-functional requirements for the design ideas and be used to measure the efficiency and effectiveness of the infographics and/or dynamic data visualisations solutions in Criterion 10. Students will then need to justify which of the design ideas should be further developed into detailed designs.

The evidence from this task is observed through Observation 4 and assessed through Criterion 4.

Producing detailed designs

Criterion 5 assesses students’ skills in producing detailed designs. Students will produce their detailed designs for the database, spreadsheet and infographics and/or dynamic data visualisations solutions. They will document the use of design principles that influence the appearance and functionality of the detailed designs.

Students will document evidence of their critical and creative thinking throughout the process of generating their design ideas using the solution requirements and the detailed designs as part of the Design stage in Criterion 5. Refer to the Skills underpinning the Design stage in the Units 1 to 4: Problem-solving methodology specifications on pages 19 of the study design.

The evidence from this task is observed through Observation 5 and assessed through Criterion 5.

Authentication

Teachers should monitor students’ progress on a regular basis and use the Authentication record form to record this information. The authentication process and feedback are clearly identified on this form so that teachers can provide feedback at various stages of the process. It is recommended that students back up files with copies of work in progress using, for example, an external drive, network drive or secure cloud storage.

Issues identified after marking Unit 3 Outcome 2

At the completion of Unit 3 Outcome 2 students may experience issues that will have a negative effect on the development of their database, spreadsheet and infographics and/or dynamic data visualisations solutions in Unit 4 Outcome 1. Teachers can provide feedback on the quality of the detailed designs, however, the adjustments must be initiated by the student and not directed by the teacher. While students can make changes to their detailed designs, they will not be reassessed and their original score will stand.

Unit 4

Data analytics: development and evaluation

Outcome 1

Develop and evaluate infographics and/or dynamic data visualisations that meet requirements and assess the effectiveness of the project plan.

Nature of task

Infographics and/or dynamic data visualisations that present findings in response to a research question

**And**

* an evaluation of the efficiency and effectiveness of infographics and/or dynamic data visualisations
* 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.

Time allocated should be at least 8 weeks of class time.

Scope of task

Development of the database solution

Criterion 6 assesses students’ skills in using database software tools. Students will use a database software tool to store and manipulate data and apply appropriate validation techniques. They are to use a range of database functions, including the creating of queries using SQL functions to extract data from the database. In order to develop the database solution, students are required to use appropriate software tools to manipulate data that meets the prescribed list of [software tools](https://www.vcaa.vic.edu.au/curriculum/vce/vce-study-designs/appliedcomputing-dataanalytics/Pages/index.aspx) and functions, and outcome-specific requirements of the study.

The evidence from this task is observed through Observation 6 and assessed through Criterion 6.

Development of the spreadsheet solution and conducting statistical analysis

Criterion 7 assesses students’ skills in using spreadsheet software tools and in conducting statistical analysis. Students will use spreadsheet software tools to store, manipulate and cleanse data, apply appropriate validation techniques and conduct statistical analysis to identify trends, relationships and patterns. In order to develop the spreadsheet solution, students are required to use appropriate software tools to manipulate data that meets the prescribed list of [software tools](https://www.vcaa.vic.edu.au/curriculum/vce/vce-study-designs/appliedcomputing-dataanalytics/Pages/index.aspx) and functions, and outcome-specific requirements of the study.

The evidence from this task is observed through Observation 7 and assessed through Criterion 7.

Development of the infographics and/or dynamic data visualisations

Criterion 8 assesses students’ skills in using data visualisation software tools to develop infographics and/or dynamic data visualisations. Students will use data visualisation software tools to create infographics and/or dynamic data visualisations, and apply appropriate validation and verification techniques. In order to develop the infographics and/or dynamic data visualisations, students are required to use appropriate software tools to manipulate data that meets the prescribed list of [software tools](https://www.vcaa.vic.edu.au/curriculum/vce/vce-study-designs/appliedcomputing-dataanalytics/Pages/index.aspx) and functions, and outcome-specific requirements of the study.

Students will document evidence of their critical and creative thinking through the modification of their designs and the evaluation criteria, and the development of the infographics and/or dynamic data visualisations as part of the Development stage in Criterion 8. Refer to the Skills underpinning the Development stage in the Units 1 to 4: Problem-solving methodology specifications on page 22 of the study design.

The evidence from this task is observed through Observation 8 and assessed through Criterion 8.

Implementation of data security and the testing of software solutions

Criterion 9 assesses students’ skills in implementing data security and the testing of software solutions. Students will document the procedures to manage the security of data and files. They will then implement these procedures. Students will use testing tables to document the testing of the database, spreadsheet and infographics and/or dynamic data visualisations solutions using suitable testing techniques and test data.

The evidence from this task is observed through Observation 9 and assessed through Criterion 9.

Evaluation of the software solution and assessment of the project plan

Criterion 10 assesses students’ skills in evaluating the solution and assessing the project plan. Students will document the evaluation of the efficiency and effectiveness of the infographics and/or dynamic data visualisations using the evaluation criteria developed in Criterion 4. This includes the extent to which it meets the functional and non-functional requirements. Students will then propose an evaluation strategy to be conducted in the future.

Students will document evidence of their critical and creative thinking through the evaluation of the process they followed through the analysis, design and development stages and discuss improvements that could be made to the infographics and/or dynamic data visualisations as part of the Evaluation stage in Criterion 10. Refer to the Skills underpinning the Evaluation stage in the Units 1 to 4: Problem-solving methodology specifications on page 23 of the study design.

Students will document the modifications made to the initial project plan throughout the duration of the project and then assess the effectiveness of the project plan.

The evidence from this task is observed through Observation 10 and assessed through Criterion 10.

Authentication

Teachers should monitor students’ progress on a regular basis and use the Authentication record form to record this information. The authentication process and feedback are clearly identified on this form so that teachers can provide feedback at various stages of the process. It is recommended that students back up files with copies of work in progress using, for example, an external drive, network drive or secure cloud storage.

Using the rubric

The following rubric is used to assess student achievement on Unit 3 Outcome 2 and Unit 4 Outcome 1. It should be noted that each piece of evidence in each criterion is not equally weighted.

The criteria identify specific characteristics that are used to judge levels of performance against the outcomes. The rubric describes typical evidence associated with five different levels of performance for a criterion (five levels; 10 marks).

Criteria 1 to 5 relate to Unit 3 Outcome 2.

Criteria 6 to 10 relate to Unit 4 Outcome 1.

Before scoring the task for Unit 3 and Unit 4, the school should determine if the student has met the requirements of the task to receive an S or an N. The task is then scored by the school. If a student does not submit any of the SAT, a score of N/A should be entered for the School-assessed Task. A score of ‘zero’ is deemed a score for each criterion. A zero is only awarded if the work has not met the minimum requirements of the criterion.

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| **VCE Data Analytics: School-assessed Task 2025** |
| **Assessment Criteria** | **Levels of Performance** |
| **Indicators** | **Not shown** | **1–2 (very low)** | **3–4 (low)** | **5–6 (medium)** | **7–8 (high)** | **9–10 (very high)** |
| **Unit 3 Outcome 2****1. Skills in developing a research question and in project management.** | * Documents a research question.
 | Insufficient evidence | Identifies a research question. Identifies data for collecting. | Outlines a research question. Outlines data for collecting and data collection methods and techniques. | Develops a research question that involves data to be collected using data collection methods and techniques.Identifies a timeframe for completion.Some issues with clarity and feasibility. | Determines a research question that involves an exploration of the data to be collected using suitable data collection methods and techniques.Outlines a feasible timeframe for completion.Minor issues with clarity or feasibility. | Proposes and explains a research question that includes a statement detailing how and what data will be collected and describes suitable methods and techniques for collecting data.Proposes a feasible timeframe for completion.The research question is clear, feasible and original. |
| * Prepares a Gantt chart using software that documents all stages and activities from the problem-solving methodology for Unit 3 Outcome 2 and Unit 4 Outcome 1.
 | Prepares a plan using software that documents the stages from the problem-solving methodology. | Prepares a Gantt chart using software that documents the stages from the problem-solving methodology for Unit 3 Outcome 2. | Prepares a Gantt chart using software that documents the stages from the problem-solving methodology for Unit 4 Outcome 1. | Prepares a Gantt chart that documents the stages and activities from the problem-solving methodology for Unit 3 Outcome 2 and Unit 4 Outcome1. | Prepares a Gantt chart that clearly and accurately documents the all the stages and activities from the problem-solving methodology for Unit 3 Outcome 2 and Unit 4 Outcome1. |
| * Documents all the relevant tasks, sequencing, time allocations, milestones, dependencies and critical path.
 | Lists relevant tasks. | Outlines a plan that includes tasks and time allocations. | Documents the appropriate sequencing of tasks, time allocations and teacher-provided milestones. | Documents the appropriate sequencing of student-provided milestones.Explains why the project needs to be monitored. | Documents the dependencies and the critical path.Discusses how the progress of the project will be monitored and documented. |
|  | 0 ❑ | 1 ❑ 2 ❑ | 3 ❑ 4 ❑ | 5 ❑ 6 ❑ | 7 ❑ 8 ❑ | 9 ❑ 10 ❑ |
| **VCE Data Analytics: School-assessed Task 2025** |
| **Assessment Criteria** | **Levels of Performance** |
| **Indicators** | **Not shown** | **1–2 (very low)** | **3–4 (low)** | **5–6 (medium)** | **7–8 (high)** | **9–10 (very high)** |
| **Unit 3 Outcome 2****2. Skills in documenting the analysis.** | * Documents the data used to inform the analysis of the research question.
 | Insufficient evidence | Lists the data that has been collected. | Outlines the use of the data that has been collected.Outlines the methods and techniques used to collect the data. | Explains the data that has been collected and how it informs the analysis of the research question.Explains the methods and techniques used to collect the data. | Analyses the data that has been collected to inform the analysis of the research question.Outlines how the data collected meets with the characteristics of data integrity.Examines the methods and techniques used to collect the data. | Discusses and analyses with reference to the characteristics of data integrity, the data collected, and the data collection methods and techniques used to inform the analysis of the research question. |
| * Documents the functional and non-functional requirements, constraints and scope.
 | Lists solution requirements. | Outlines solution requirements and constraints that may impact the development of an answer to the research question. | Documents functional requirements and relevant constraints that may impact the development of an answer to the research question. | Documents functional and non-functional requirements, constraints and defines the scope of the data collected. | Documents all functional and non-functional requirements, constraints and accurately defines the scope of the data collected. |
| * Documents the process of critical and creative thinking through critical analysis, the use of questions and follow-up questions to clarify the development of the solution requirements, constraints and scope.
 |  | Identifies the data that needs to be collected to inform the development of the solution requirements, constraints and scope. | Outlines the use of questions to critically analyse the sources of the data collected to inform the development of the solution requirements, constraints and scope. | Writes questions to critically analyse the development of the solution requirements, constraints and scope. | Evaluates questions to critically analyse the development of the solution requirements, constraints and scope. | Writes follow-up questions to clarify the data collected to inform the research question and the development of the solution requirements, constraints and scope. |
|  | 0 ❑ | 1 ❑ 2 ❑ | 3 ❑ 4 ❑ | 5 ❑ 6 ❑ | 7 ❑ 8 ❑ | 9 ❑ 10 ❑ |

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| **VCE Data Analytics: School-assessed Task 2025** |
| **Assessment Criteria** | **Levels of Performance** |
| **Indicators** | **Not shown** | **1–2 (very low)** | **3–4 (low)** | **5–6 (medium)** | **7–8 (high)** | **9–10 (very high)** |
| **Unit 3 Outcome 2****3. Skills in searching, collecting, manipulating, referencing and managing data.** | * Searches for and collects data sets from primary and secondary data sources.
 | Insufficient evidence | Collects a data set from a secondary data source. | Collects data sets from secondary data sources using limited data acquisition methods. | Collects data sets from both primary and secondary sources using appropriate acquisition methods. | Collects multiple data sets from both primary and secondary data sources using appropriate legal and ethical data acquisition methods. | Collects sufficient data sets from both primary and secondary data sources to allow a full exploration of the research question.No legal or ethical concerns exist. |
| * Prepares all data for manipulation.
 | Prepares data for manipulation. | Prepares quantitative data for manipulation using relevant data types. | Prepares quantitative data for manipulation using relevant data types and data structures.Some inconsistencies are present. | Prepares qualitative data for manipulation using coding techniques.Minor inconsistencies are present. | Prepares all quantitative and qualitative data for manipulation, correctly and accurately. |
| * References primary and secondary data using the APA referencing system.
 | Lists data from data repositories. | Outlines the details of secondary data sourced from data repositories, including the title of each data repository and the date sourced. | Applies referencing to primary and secondary data using the APA referencing system, including the author and source.Some errors in the use of conventions exist. | References primary and secondary data from large repositories using the APA referencing system to create a reference list.Minor errors in the use of conventions exist. | References all primary and secondary data sources correctly, and in alphabetical order, using the APA referencing system to create a formal reference list.No errors exist. |
| * Documents procedures for managing data and files.
 | Lists procedures for managing data and files. | Outlines procedures for managing data and files. | Documents a plan to manage data and files for the project, including:* a backup strategy.
 | Documents a plan to manage data and files for the project, including:* a backup strategy
* archiving files.
 | Documents a plan to manage data and files for the project, including:* a backup strategy
* archiving files
* disposal of data and files.
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|  | 0 ❑ | 1 ❑ 2 ❑ | 3 ❑ 4 ❑ | 5 ❑ 6 ❑ | 7 ❑ 8 ❑ | 9 ❑ 10 ❑ |

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| **VCE Data Analytics: School-assessed Task 2025** |
| **Assessment Criteria** | **Levels of Performance** |
| **Indicators** | **Not shown** | **1–2 (very low)** | **3–4 (low)** | **5–6 (medium)** | **7–8 (high)** | **9–10 (very high)** |
| **Unit 3 Outcome 2****4. Skills in generating design ideas and developing evaluation criteria.** | * Generates design ideas for database, spreadsheet, and infographics and/or dynamic data visualisations solutions.
 | Insufficient evidence | Lists design ideas for the: * database
* spreadsheet
* infographics and/or dynamic data visualisations.
 | Illustrates design ideas for the database, spreadsheet, and infographics and/or dynamic data visualisations using one of the following ideation tools and techniques:* mood boards
* brainstorming
* mind maps
* sketches.
 | Generates design ideas that represent the database (SQL) and spreadsheet solutions using two of the following ideation tools and techniques* mood boards
* brainstorming
* mind maps
* sketches.

Uses annotations to identify the appearance of the software solutions. | Generates design ideas that represent the infographics and/or dynamic data visualisations solutions using three or more of the following ideation tools and techniques* mood boards
* brainstorming
* mind maps
* sketches.

Uses annotations to explain the appearance and functionality of the software solutions. | Generates feasible, original and distinctive design ideas using ideation tools and techniques that fully represent the: * database (SQL)
* spreadsheet
* infographics and/or dynamic data visualisations.

Uses annotations to describe and justify the appearance and functionality of the software solutions. |
| * Develops evaluation criteria with reference to design ideas and the efficiency and effectiveness of infographics and/or dynamic data visualisations solutions.
 | Identifies measures to evaluate design ideas or the infographics and/or dynamic data visualisations solutions. | Outlines criteria to evaluate the design ideas and the infographics and/or dynamic data visualisations solutions, with reference to the functional and non-functional requirements. | Develops and applies evaluation criteria to determine which elements of the design ideas should be further developed into detailed designs. | Uses the evaluation criteria to explain which elements of the design ideas should be further developed into detailed designs. | Uses the evaluation criteria to justify which elements of the design ideas should be further developed into detailed designs. |
|  | 0 ❑ | 1 ❑ 2 ❑ | 3 ❑ 4 ❑ | 5 ❑ 6 ❑ | 7 ❑ 8 ❑ | 9 ❑ 10 ❑ |

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| **VCE Data Analytics: School-assessed Task 2025** |
| **Assessment Criteria** | **Levels of Performance** |
| **Indicators** | **Not shown** | **1–2 (very low)** | **3–4 (low)** | **5–6 (medium)** | **7–8 (high)** | **9–10 (very high)** |
| **Unit 3 Outcome 2****5. Skills in producing detailed designs.** | * Produces detailed designs for the software solutions.
 | Insufficient evidence | Uses a mock-up to represent an infographic or dynamic data visualisation. | Uses annotated mock-ups or storyboards to represent the appearance of an infographic or dynamic data visualisation. | Uses query designs or an IPO chart to design the functionality of the database (SQL) and spreadsheet solutions.Applies the relevant features of the design tools. | Uses multiple mock-ups and/or storyboards to design the appearance and functionality of the infographics and/or dynamic data visualisations.Applies the relevant features of the design tools correctly. | Uses appropriate and relevant design tools to represent the appearance and functionality of the infographics and/or dynamic data visualisations.Designs are feasible and complete. |
| * Documents the use of design principles that influence the appearance and functionality of the detailed designs.
 | Lists design principles that have been considered as part of the detailed designs. | Uses brief annotations to identify how the design principles have been applied within the detailed designs. | Uses annotations or written descriptions to describe how design principles have been applied within the detailed designs, with reference to appearance or functionality. | Uses annotations and written descriptions to describe how design principles have been applied within the detailed designs, with reference to appearance and functionality. | Uses annotations and written explanations to explain how the selected design principles have been applied within the detailed designs. |
| * Documents the process of critical and creative thinking through the development of design ideas and the detailed designs.
 | Identifies existing and possible solutions to inform design ideas. | Outlines the connections between the design ideas using annotations. | Documents the connections between the design ideas and solution requirements. | Documents the connections between the design ideas, solution requirements and the detailed designs. | Documents possible contingencies when developing solution designs.Documents possible solutions to mitigate issues. |
|  | 0 ❑ | 1 ❑ 2 ❑ | 3 ❑ 4 ❑ | 5 ❑ 6 ❑ | 7 ❑ 8 ❑ | 9 ❑ 10 ❑ |

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| **VCE Data Analytics: School-assessed Task 2025** |
| **Assessment Criteria** | **Levels of Performance** |
| **Indicators** | **Not shown** | **1–2 (very low)** | **3–4 (low)** | **5–6 (medium)** | **7–8 (high)** | **9–10 (very high)** |
| **Unit 4 Outcome 1****6. Skills in using database software tools.** | * Use of database software tools to store and manipulate data.
 | Insufficient evidence | Identifies and selects data from large data repositories.Uses database software tools to: * create tables using data types and field sizes.
 | Uses database software tools to: * extract data from large data repositories into database tables
* create queries that select data from the database.
 | Uses database software tools to: * create relationships between database tables
* create queries that sort and filter data from the database.

Some errors exist in data selection and sorting. | Uses database software tools to: * create queries using SQL functions.

Minor errors exist in data selection and sorting. | Uses database software tools to: * create queries using SQL functions that include Boolean operators.

All queries execute successfully. |
| * Applies appropriate validation techniques.
 | Identifies input data for validation. | Validates data using one of the following checks:* existence
* type
* range.
 | Validates data using two of the following checks:* existence
* type
* range.

Some inconsistencies are present. | Validates data using all the following checks:* existence
* type
* range.

Minor inconsistencies are present. | Validates all relevant input data and checks the reasonableness and completeness of all input data.No inconsistencies are present. |
|  | 0 ❑ | 1 ❑ 2 ❑ | 3 ❑ 4 ❑ | 5 ❑ 6 ❑ | 7 ❑ 8 ❑ | 9 ❑ 10 ❑ |

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| **VCE Data Analytics: School-assessed Task 2025** |
| **Assessment Criteria** | **Levels of Performance** |
| **Indicators** | **Not shown** | **1–2 (very low)** | **3–4 (low)** | **5–6 (medium)** | **7–8 (high)** | **9–10 (very high)** |
| **Unit 4 Outcome 1****7. Skills in using spreadsheet software tools and in conducting statistical analysis.** | * Use spreadsheet software tools to manipulate and cleanse data.
 | Insufficient evidence | Uses spreadsheet software tools to:* identify data for manipulation and cleansing
* create worksheets.
 | Uses spreadsheet software tools to:* import data from database software tools using a range of data types
* apply a range of appropriate formats to data.
 | Uses spreadsheet software tools to:* apply conditional formatting
* filter data using criteria
* sort data using one field/column
* manipulating data using formulas.

Some errors exist with data and/or calculations. Few errors have been corrected. | Uses spreadsheet software tools to:* link between worksheets
* sort data using multiple fields/columns.

Minor errors exist with data and/or calculations. Some errors have been corrected. | Uses spreadsheet software tools to:* format all data and charts for export to infographics and/or dynamic data visualisations.

All errors with data and/or calculations have been identified and corrected. |
| * Applies appropriate validation techniques.
 | Identifies input data for validation. | Validates data using one of the following checks:* existence
* type
* range.
 | Validates data using two of the following checks:* existence
* type
* range.

Some inconsistencies are present. | Validates data using all the following checks:* existence
* type
* range.

Minor inconsistencies are present. | Validates all relevant input data and checks the reasonableness and completeness of all input data.No inconsistencies are present. |
| * Use of statistical analysis to identify trends, relationships and patterns.
 | Lists manual calculations to be used for statistical analysis.Identifies trends in the data. | Illustrates calculations using formulas to be used for statistical analysis.Creates charts to enable statistical analysis.Outlines trends and patterns in the data. | Calculates descriptive statistics using formulas and describes each statistic.Creates relevant charts that accurately depict the data.Describes trends and patterns in the data and charts produced. | Calculates descriptive statistics related to the measures of variability and the spread of the data.Examines the statistics and describes its relevance.Describes the shape and skew of the data and charts correctly.States the relationships between data variables. | Calculates all relevant descriptive statistics correctly and accurately.Explains reasons for the shape and skew of data accurately.Calculates Pearson’s correlation co-efficient and uses the value to show the relationship between data variables. |
|  | 0 ❑ | 1 ❑ 2 ❑ | 3 ❑ 4 ❑ | 5 ❑ 6 ❑ | 7 ❑ 8 ❑ | 9 ❑ 10 ❑ |
| **VCE Data Analytics: School-assessed Task 2025** |
| **Assessment Criteria** | **Levels of Performance** |
| **Indicators** | **Not shown** | **1–2 (very low)** | **3–4 (low)** | **5–6 (medium)** | **7–8 (high)** | **9–10 (very high)** |
| **Unit 4 Outcome 1****8. Skills in using data visualisation software tools to develop infographics and/or dynamic data visualisations.** | * Use of data visualisation software tools to create infographics and/or dynamic data visualisations.
 | Insufficient evidence | Identifies functions and formats to create infographics and/or dynamic data visualisations that incorporate: * text
* images.
 | Applies functions and formats to create infographics and/or dynamic data visualisations that incorporate:* text
* images
* symbols
* charts.
 | Uses functions, formats and conventions to create infographics and/or dynamic data visualisations that incorporate:* a range of chart types.
 | Uses functions, formats and conventions to create infographics and/or dynamic data visualisations that explain identified relationships, trends and patterns.Explains why the types of data visualisations were used. | Selects and uses functions, formats and conventions to create effective infographics and/or dynamic data visualisations that clearly communicate and displays all findings to a target audience.Evaluates the use of the types of data visualisations. |
| * Applies appropriate validation techniques.
 | Identifies input data for validation. | Validates data using one of the following checks:* existence
* type
* range.
 | Validates data using two of the following checks:* existence
* type
* range.

Some inconsistencies are present. | Validates data using all the following checks:* existence
* type
* range.

Minor inconsistencies are present. | Validates all relevant input data and checks the reasonableness and completeness of all input data.No inconsistencies are present. |
| * Applies appropriate verification techniques.
 | Identifies data for verification. | Verifies data, in a limited way, including:* proofreading to avoid spelling errors
* ensuring images load correctly.
 | Verifies that text, images, symbols and charts are positioned as designed within infographics and/or dynamic data visualisations. | Verifies data to ensure that data values load correctly.Some data errors occur within data tables or charts where there is inconsistency with the original data source. | Applies end-to-end verification from the data source to the final infographics and/or dynamic data visualisations by checking values from the:* initial source files
* databases
* spreadsheets.
 |
| * Documents the process of critical and creative thinking through the modification of the designs and evaluation criteria, and the development of the infographics and/or dynamic data visualisations.
 | Identifies designs requiring modification. | Outlines the modifications and further development of the designs, using annotations. | Documents the modifications and further development of the evaluation criteria. | Explains why the modifications have been made to the designs and the evaluation criteria. | Documents possible contingencies when developing infographics and/or dynamic data visualisations.Documents possible solutions to mitigate issues. |
|  | 0 ❑ | 1 ❑ 2 ❑ | 3 ❑ 4 ❑ | 5 ❑ 6 ❑ | 7 ❑ 8 ❑ | 9 ❑ 10 ❑ |
| **VCE Data Analytics: School-assessed Task 2025** |
| **Assessment Criteria** | **Levels of Performance** |
| **Indicators** | **Not shown** | **1–2 (very low)** | **3–4 (low)** | **5–6 (medium)** | **7–8 (high)** | **9–10 (very high)** |
| **Unit 4 Outcome 1****9. Skills in implementing data security and the testing of software solutions.** | * Documents and implements procedures to manage the security of data and files.
 | Insufficient evidence | Lists security controls to protect data and files. | Outlines security controls and procedures to secure data and files. | Documents an implementation plan to manage the security of data and files, including:* security controls
* procedures.

Some data security issues exist. | Implements security controls and procedures as part of an implementation plan to secure data and files.Minor data security issues exist. | Implements and justifies a complete range of security controls and procedures, as part of an implementation plan, using a checklist to ensure that all data and files are secured. |
| * Documents the use of suitable testing techniques to ensure the database, spreadsheet, and infographics and/or dynamic data visualisations software solutions perform as intended.
 | Lists test data for database queries or spreadsheet formulas. | Outlines test data for database queries and spreadsheet formulas in a testing table.The testing table is incomplete. | Identifies test data for database queries, spreadsheet formulas and visually inspecting the appearance of infographics and/or dynamic data visualisations in a testing table with expected results stated.Identifies input data to test validation checks.Some errors exist. | Classifies test data for database queries, spreadsheet formulas and confirming charts and graphs are representative of data for infographics and/or dynamic data visualisations using testing tables.Compares test results displaying both expected and actual results.Documents suggested actions for rectifying errors in the testing tables.Minor errors exist. | Reports and displays evidence of test data for database queries, spreadsheet formulas and infographics and/or dynamic data visualisationsDocuments a complete list of actions taken for failed tests in a testing tables that compares both expected and actual results.No errors exist. |
|  | 0 ❑ | 1 ❑ 2 ❑ | 3 ❑ 4 ❑ | 5 ❑ 6 ❑ | 7 ❑ 8 ❑ | 9 ❑ 10 ❑ |
| **VCE Data Analytics: School-assessed Task 2025** |
| **Assessment Criteria** | **Levels of Performance** |
| **Indicators** | **Not shown** | **1–2 (very low)** | **3–4 (low)** | **5–6 (medium)** | **7–8 (high)** | **9–10 (very high)** |
| **Unit 4 Outcome 1****10. Skills in evaluating the solution and assessing the project plan.** | * Documents the evaluation of the efficiency and effectiveness of infographics and/or dynamic data visualisations.
 | Insufficient evidence | Identifies measures to evaluate whether the infographics and/or dynamic data visualisations have met solution requirements. | Outlines the evaluation criteria from Criterion 4 required to evaluate the efficiency and effectiveness of the infographics and/or dynamic data visualisations. | Uses the evaluation criteria from Criterion 4 to evaluate the efficiency and effectiveness of the infographics and/or dynamic data visualisations, and the extent to which it meets the functional and non-functional requirements. | Explains how the evaluation criteria has been measured to evaluate the efficiency and effectiveness of the infographics and/or dynamic data visualisations. | Proposes an evaluation strategy to be conducted sometime in the future to evaluate the efficiency and effectiveness of the infographics and/or dynamic data visualisations that includes:* the time frame for the evaluation to be conducted
* the evaluation criteria to be used.
 |
| * Documents evidence of critical and creative thinking through the evaluation of the analysis, design and development stages and improvements to the infographics and/or dynamic data visualisations.
 | Identifies features of the infographics and/or dynamic data visualisations that meet functional and non-functional requirements. | Outlines the process of developing the infographics and/or dynamic data visualisations through the analysis, design and development stages. | Evaluates the use of the analysis, design and development stages in developing the infographics and/or dynamic data visualisations. | Critically evaluates the process of developing the infographics and/or dynamic data visualisations, from start to finish, through the analysis, design and development stages, and how this process assisted in meeting requirements. | Discusses and justifies improvements that could be made to the infographics and/or dynamic data visualisations by approaching the analysis, design and development stages differently. |
| * Documents the modifications made to the initial project plan throughout the duration of the project.
 | Lists modifications to the tasks during the project. | Uses annotations to outline the modifications made to the initial project plan. | Uses annotations to describe the modifications made to the initial project plan. | Uses adjustments or logs/journals to document and explain the modifications made to the initial project plan. | Justifies the modifications made to initial project plan. |
| * Assesses the effectiveness of the project plan.
 | List factors that contributed to the effectiveness of the project plan. | Outlines the changes made to the project plan and how they impacted the effectiveness of the project plan. | Describes the reasons why changes were made to the project plan and how they impacted the effectiveness of the project plan. | Discusses how the changes made to the project plan impacted the completion of the project and the effectiveness of the project plan. | Explains the changes made to the project plan, with evidence, and how these changes impacted the completion of the project and the overall effectiveness of the project plan. |
|  | 0 ❑ | 1 ❑ 2 ❑ | 3 ❑ 4 ❑ | 5 ❑ 6 ❑ | 7 ❑ 8 ❑ | 9 ❑ 10 ❑ |

Authentication of VCE Applied Computing: Data Analytics School-assessed Task (SAT)

Teachers are reminded of the need to comply with the authentication requirements specified in the Assessment: School-based Assessment section of the [*VCE* *Administrative Handbook 202*](http://www.vcaa.vic.edu.au/Pages/schooladmin/handbook/2018/index.aspx)*5.* This is important to ensure that ‘undue assistance [is] not … provided to students while undertaking assessment tasks’.

Teachers must be aware of the following requirements for the authentication of VCE Applied Computing: Data Analytics School-assessed Task.

1. The body of work created for the SAT is based on work developed and completed in Unit 3 Outcome 2 and Unit 4 Outcome 1.

2. Teachers are required to fill out the Authentication record form and provide the student with feedback on their progress at each observation.

3. Undue assistance should not occur at any time during the development of the body of work, and teachers need to be vigilant. Students are required to demonstrate development of their thinking and working practices. Teachers are reminded that it is not appropriate to provide ‘detailed advice on, corrections to, or actual reworking of students’ work’.

4. Teachers must sight and monitor the development and documentation of the student’s thinking and working practices throughout the unit to authenticate the work as the student’s own. Students must acknowledge the source of materials and information used to support the development of their work.

5. Students should be encouraged to complete their work at school. Where students use external service providers, their documentation should demonstrate ongoing progress throughout the SAT.

6. During the generation of the software solution, teachers must plan and use observations of student work to monitor and record each student’s progress as part of the authentication process. Teachers must ensure that all source and reference material, all use of non-school (home, outsourced) resources and any external assistance (for example, tutors) are acknowledged on the Authentication record form. If a student acknowledges using external resources or receiving external assistance, the teacher should record complete details as an attachment to the Authentication record form.

7. Teachers are reminded that the authentication procedures must be followed for all student work in relation to this SAT. The School-based Assessment Audit includes the inspection of Authentication record forms.

Authentication record form: VCE Applied Computing: Unit 3 Data Analytics SAT 2025

This form must be completed by the class teacher. It provides a record of the monitoring of the student’s work in progress for authentication purposes. This form is to be retained by the school and filed.
It may be collected by the VCAA as part of the School-based Assessment Audit.

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Student name …………………………………………………………….. Student No

School …………………………………………………………………… Teacher: ……………………………………..…………………………………………….

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| **Component of School-assessed Task** | **Date observed/ submitted** | **Authentication comments** | **Teacher’s initials** | **Student’s initials** |
| **Observation 1: Development of a research question and project plan (Criterion 1)**The student is developing/has developed a research question that enables findings to be presented as infographics and/or dynamic data visualisations. The teacher has approved or not approved the research question. The student is preparing/has prepared a Gantt chart for both parts of the SAT (Unit 3 Outcome 2 and Unit 4 Outcome 1). | Observed | Observation of the development of the research question and the project plan |  |  |
| Submitted | Submission of the research question and the project plan |  |  |
| **Observation 2: Documentation of the analysis (Criterion 2)**The student is documenting/has documented the analysis of the data to inform the research question, including the requirements, constraints and scope. | Observed | Observation of the development of the documentation of the analysis |  |  |
| Submitted | Submission of the analysis |  |  |
| **Observation 3: Searching, collecting, manipulating, referencing and managing data (Criterion 3)**The student is searching, collecting, manipulating, referencing and managing data/has searched, collected, manipulated, referenced and managed data. | Observed | Observation of the searching, collecting, manipulating, referencing and managing of data |  |  |
| Submitted | Submission of searched, collected, manipulated, referenced and managed data |  |  |
| **Observation 4: Generating design ideas and developing evaluation criteria (Criterion 4)**The student is generating/has generated their design ideas and is developing/has developed their evaluation criteria. | Observed | Observation of the generation of the design ideas and the development of the evaluation criteria |  |  |
| Submitted | Submission of the design ideas and evaluation criteria |  |  |
| **Observation 5: Producing detailed designs (Criterion 5)**The student is producing/has produced the detailed designs. | Observed | Observation of the production of the detailed designs |  |  |
| Submitted | Submission of the detailed designs |  |  |

I declare that all resource materials and assistance used have been acknowledged and that all unacknowledged work is my own.

Student signature …………………………………………… Date …………………………………

Authentication record form: VCE Applied Computing: Unit 4 Data Analytics SAT 2025

This form must be completed by the class teacher. It provides a record of the monitoring of the student’s work in progress for authentication purposes. This form is to be retained by the school and filed.
It may be collected by the VCAA as part of the School-based Assessment Audit.

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Student name …………………………………………………………….. Student No

School …………………………………………………………………… Teacher: ……………………………………..…………………………………………….

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Component of School-assessed Task** | **Date observed/ submitted** | **Authentication comments** | **Teacher’s initials** | **Student’s initials** |
| **Observation 6: Development of the database solution (Criterion 6)**The student is developing/has developed the database solution. | Observed | Observation of the development of the database solution |  |  |
| Submitted | Submission of the database solution |  |  |
| **Observation 7: Development of the spreadsheet solution and conducting statistical analysis (Criterion 7)**The student is developing/has developed the spreadsheet solution and is conducting/has conducted statistical analysis. | Observed | Observation of the development of the spreadsheet solution and statistical analysis |  |  |
| Submitted | Submission of the spreadsheet solution and statistical analysis |  |  |
| **Observation 8: Development of the infographics and/or dynamic data visualisations (Criterion 8)**The student is developing/has developed the infographics and/or dynamic data visualisations.  | Observed | Observation of the development of the infographics and/or dynamic data visualisations |  |  |
| Submitted | Submission of the infographics and/or dynamic data visualisations |  |  |
| **Observation 9: Implementation of data security and the testing of software solutions (Criterion 9)**The student has documented/implemented procedures to manage the security of data and files, and is documenting/has documented the testing of database solutions, spreadsheet solutions and infographics and/or dynamic data visualisations. | Observed | Observation of the procedures for securing data and the testing of software solutions |  |  |
| Submitted | Submission of the procedures for securing data and the testing of software solutions |  |  |
| **Observation 10: Evaluation of the software solution and assessment of the project plan (Criterion 10)**The student is documenting/has documented the evaluation of the infographics and/or dynamic data visualisations and the assessment of the project plan. | Observed | Observation of the evaluation of the solution and the assessment of the project plan |  |  |
| Submitted | Submission of the evaluation of the solution and the assessment of the project plan |  |  |

I declare that all resource materials and assistance used have been acknowledged and that all unacknowledged work is my own.

Student signature …………………………………………… Date …………………………………

|  |  |  |
| --- | --- | --- |
| **2025** | Victorian Certificate of EducationApplied Computing: Data Analytics Assessment SheetSchool-assessed Task | STUDENT NAME |
| This assessment sheet will assist teachers to determine their score for each student. Teachers need to make judgments on the student’s performance for each criterion. Teachers will be required to choose one number from 0–10 to indicate how the student performed on each criterion with comments, as appropriate. Teachers then add the subtotals to determine the total score.  | student number |  |  |  |  |  |  |  |  |  |
| assessing school number |  |  |  |  |  |
|  |  |
| **Criteria for the award of grades** | Not Shown (0) | Very Low (1–2) | Low (3–4) | Med (5–6) | High (7–8) | Very High (9–10) | **Performance on Criteria: Teacher’s Comments**You may wish to comment on aspects of the student’s work that led to your assessment. |
| **The extent to which the student demonstrates skills in:** |  |  |  |  |  |  |
| 1 developing a research question and in project management |  |  |  |  |  |  |
| 2 documenting the analysis |  |  |  |  |  |  |
| 3 searching, collecting, manipulating, referencing and managing data |  |  |  |  |  |  |
| 4 generating design ideas and developing evaluation criteria |  |  |  |  |  |  |
| 5 producing detailed designs |  |  |  |  |  |  |
| 6 using database software tools |  |  |  |  |  |  |
| 7 using spreadsheet software tools and conducting statistical analysis |  |  |  |  |  |  |
| 8 using data visualisation software tools to develop infographics and/or dynamic data visualisations |  |  |  |  |  |  |
| 9 implementing data security and the testing of software solutions |  |  |  |  |  |  |
| 10 evaluating the solution and assessing the project plan. |  |  |  |  |  |  |
| If a student does not submit the School-assessed Task at all, N/A should be entered in the total score box. | **SUBTOTALS** |  |  |  |  |  |  |  |

**TOTAL SCORE**