**OCR-set Assignment**

**Sample Assessment Material**

OCR Level 3 Alternative Academic QualificationCambridge Advanced Nationals in IT: Data Analytics

Unit F205: Data visualisation

Scenario Title: Triangle Music Events

Give to candidates on or after X June 20XX.
Valid for assessment until 20XX. For use by students beginning the qualification in September 20XX and finishing by 20XX or 20XX.

This is a sample OCR-set assignment which should only be used for practice**.**

This assignment **must not** be used for live assessment of students.

The live assignments will be available on our secure website, ‘Teach Cambridge’.

**The OCR administrative codes linked to this unit are:**

* unit entry code F205
* certification code H119

**The regulated qualification number linked to this unit is:**

J/651/0973 610/3997/4

**Duration**

About 15 hours of supervised time (GLH)

(work that **must** be completed under teacher supervised conditions)

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# Information and instructions for teachers

## Using this assignment

This assignment provides a scenario and set of related tasks that reflect how an organisation processes and visualises data sets.

The assignment:

* Is written so that students have the opportunity to meet the requirements of all assessment criteria for the unit.
* Will tell students if their evidence must be in a specific format. If the task does not specify a format, students can choose the format to use.
* **Must** be completed under teacher supervision. Any exceptions to this will be stated in the assessment guidance.

We have estimated that the assignment will take about 15 hours to complete. Students should need approximately:

* 4 hours to complete Task 1
* 5 hours to complete Task 2
* 3 hours to complete Task 3
* 3 hours to complete Task 4

You **must**:

* Use an OCR-set assignment for summative assessment of students.
* Familiarise yourself with the assessment criteria and assessment guidance for the tasks. These are given at the end of each student task. They are also with the unit content in **Section 4** of the Specification.

Assessment guidance is only given where additional information is needed. There might not be assessment guidance for each criterion.

* Make sure students understand that the assessment criteria and assessment guidance tell them in detail what to do in each task.
* Read and understand **all** the rules and guidance in **Section 6** of the Specification **before** your students start the set assignments.
* Make sure that your students complete the tasks and that you assess the tasks fully in line with the rules and guidance in **Section 6** of the Specification.
* Give your students the OCR Level 3 Cambridge Advanced National (AAQ) in IT: Data Analytics [**Student guide to NEA assignment**](https://www.ocr.org.uk/Images/620503-student-guide-to-nea-assignments.pdf)**s** **before** they start the assignments.

You **must** **not**:

* Use live OCR-set assignments for practice or formative assessment. This sample assessment material **can** be used for practice or formative assessment.
* Use this sample assessment material for live assessment of students.
* Allow group work for **any** task in this assignment.
* Change any part of the OCR-set assignments or assessment criteria.

**Pages 1-4** are for teachers only. Please do **not** give **Pages 1-4** to your students.

You can give **any** or **all** of the pages **that follow** to your students.

# Tasks for students and assessment criteria

**Unit F205: Data visualisation**

**Scenario Title:** Triangle Music Events

Give to candidates on or after X June 20XX.
Valid for assessment until 20XX. For use by students beginning the qualification in September 20XX and finishing by 20XX or 20XX.

## Scenario

The owner of Triangle Music Events wants a system to visualise data relating to events and bookings.

**Client Requirements**

The owner wants a visualisation that will identify trends in the following:

* Bookings by event type
* Income by event type
* Bookings by event duration i.e. 1-day, 2-day and 3-day events
* Income by event duration
* Income by year
* Feedback ratings for each event type and duration
* Predicted income for Year 5 sorted in ascending order of income
* Event types for Years 3, 4 and 5
* Event types attended by fewer than 500 people

**Information**

These are the prices charged to attend an event.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Duration** | **Year 1** | **Year 2** | **Year 3**  | **Year 4**  | **Year 5****(this year)** |
| 1-day event | £30 | £32 | £32 | £35 | £40 |
| 2-day event | £50 | £52 | £54 | £60 | £68 |
| 3-day event | £75 | £80 | £82 | £90 | £100 |

For Year 5 (this year) the owner thinks that there will be an increase of 15% in the number of bookings on Year 4.

The same events will take place in Year 5 that took place in Year 4.

The owner has provided data in the following files:

Year 1 data.docx – contains data relating to Year 1

Year 2 data.docx – contains data relating to Year 2

Year 3 data.csv – contains data relating to Year 3

Year 4 data.csv – contains data relating to Year 4

## Task 1

**Plan a data dashboard**

Topic Areas 1 and 2 are assessed in this task.

**The task is:**

Study the data that has been provided by the owner and plan the data dashboard.

Only Year 1 data.docx has data that needs to be cleansed. The other files do **not** need to be cleansed.

Your evidence **must** include:

* Your planning documentation.

**Use the assessment criteria below to tell you what you need to do in more detail.**

|  |  |  |
| --- | --- | --- |
| **Pass**  | **Merit**  | **Distinction**  |
| **P1: Describe** design and target audience considerations for data visualisation.(PO2) | **M1: Explain** why data preparation is important for data visualisation.(PO2)   | **D1: Examine** the legal, ethical, moral and social considerations in relation to collection and use of a data set. (PO2) |
| **P2: Describe** the data preparation considerations for data visualisation.(PO2) |
| **P3: Identify** the layout of a data dashboard and the HCI considerations that are required to present data on the dashboard for the client.(PO2) |  |  |
| **P4: Explain** the functionality considerations and data manipulation methods required to present data on the dashboard for the client.(PO2) |  |  |
| **P5: Identify** the outputs for the data dashboard for the client.(PO2) |  |  |

**Assessment Guidance**

This assessment guidance gives you information to meet the assessment criteria. There might not be additional assessment guidance for each criterion.  It is only given where it is needed. You must read this guidance before you complete your evidence.

|  |  |
| --- | --- |
| **Assessment Criteria** | **Assessment guidance** |
| P1 | * The considerations **must** reference the scenario.
 |
| M1 | * The explanation **must** be linked to the given scenario.
 |
| D1 | * The evidence **must** be linked to the given scenario.
 |
| P2 | * There is no assessment guidance for this criterion.
 |
| P3 | * There is no assessment guidance for this criterion.
 |
| P4 | * Students can select calculation functions from the list in **Section 2.5** of **Unit F202**.
* These are:
	+ Relative and absolute cell references
	+ Mathematical operators
	+ Simple functions
	+ Logical functions
	+ Financial functions
	+ Text functions
	+ Date and time functions
	+ Lookup and reference functions
	+ Math and trig functions

(See **Section 2.5** of Unit **F202** for examples.) |
| P5 | * There is no assessment guidance for this criterion.
 |

## Task 2

**Create the data dashboard**

Topic Area 3 is assessed in this task.

**The task is:**

Create the data dashboard using your planning from **Task 1** and the data provided.

Your evidence **must** include:

* The digital file you created containing the data and the data dashboard.

**Use the assessment criteria below to tell you what you need to do in more detail.**

|  |  |  |
| --- | --- | --- |
| **Pass**  | **Merit**  | **Distinction**  |
| **P6: Import** the data provided into an appropriate application for visualisation.(PO4) |  |   |
| **P7: Prepare** the data provided to allow for effective manipulation.(PO4) |   |   |
| **P8: Create** the functionality and data manipulation methods required to present data on the dashboard.(PO4) | **M2: Summarise** data ready for visualising the data using appropriate data analysis tools.(PO4) |  |
| **P9: Create** a data dashboard to visualise data for the client.(PO4) | **M3: Implement** HCI considerations in the data dashboard using visualisation software tools.(PO4) |  |
| **M4: Sort** data on a data dashboard for the client.(PO4) | **D2: Filter** data on a data dashboard for the client.(PO4) |

**Assessment Guidance**

This assessment guidance gives you information to meet the assessment criteria. There might not be additional assessment guidance for each criterion.  It is only given where it is needed. You must read this guidance before you complete your evidence.

|  |  |
| --- | --- |
| **Assessment Criteria** | **Assessment guidance** |
| P6 | * There is no assessment guidance for this criterion.
 |
| P7 | * Students only need to cleanse the data. They do **not** need to validate it.
 |
| P8 | * Students can select calculation functions from the list in **Section 2.5** of **Unit F202**.
 |
| M2 | * Students **must** use appropriate data analysis tools, such as pivot tables or similar.
 |
| P9 | * There is no assessment guidance for this criterion.
 |
| M3 | * There is no assessment guidance for this criterion.
 |
| M4 | * Sorting can include ascending and descending order, and sorting on more than one column of data.
 |
| D2 | * There is no assessment guidance for this criterion.
 |

## Task 3

**Interpreting and communicating the information produced**

Topic Area 4 is assessed in this task.

**The task is:**

Communicate and interpret the information produced for Triangle Music Events.

Your evidence **must** include:

* A report and/or a written presentation and/or a video recording.

**Use the assessment criteria below to tell you what you need to do in more detail.**

|  |  |  |
| --- | --- | --- |
| **Pass**  | **Merit**  | **Distinction**  |
| **P10: Present** the outputs from the data dashboard to the client. (PO4) | **M5: Justify** the method used to communicate the outputs from the data dashboard.(PO3) | **D3: Interpret** the outputs from the data dashboard for the client.(PO3) |

**Assessment Guidance**

This assessment guidance gives you information to meet the assessment criteria. There might not be additional assessment guidance for each criterion.  It is only given where it is needed. You must read this guidance before you complete your evidence.

|  |  |
| --- | --- |
| **Assessment Criteria** | **Assessment guidance** |
| P10 | * Students will demonstrate how the data dashboard works.
* Acceptable formats for this are: written report, written or verbal presentation.
* Evidence of presentation can be a report, a written presentation, or a video recording.
 |
| M5 | * There is no assessment guidance for this criterion.
 |
| D3 | * Students **must** consider trends and patterns from the data outputs. Students **must** make recommendations to the client based on any trends and patterns.
 |

## Task 4

**Evaluating the effectiveness of the visualisation solution**

Topic Area 5 is assessed in this task.

**The task is:**

Evaluate the preparation of the data and evaluate the data dashboard you created for the owner of Triangle Music Events.

Your evidence **must** include:

* A report.

**Use the assessment criteria below to tell you what you need to do in more detail.**

|  |  |  |
| --- | --- | --- |
| **Pass**  | **Merit**  | **Distinction**  |
| **P11: Describe** what was and what was **not** effective in the data preparation process.(PO3) |  |  |
| **P12: Compare** the data dashboard produced with the client requirements.(PO3) | **M6: Evaluate** how far the dashboard produced reflects the plans.(PO3) | **D4: Evaluate** how effective overall the data dashboard produced is in meeting the client requirements.(PO3) |
| **M7: Suggest** improvements that could be made to the HCI and layout of the data dashboard produced.(PO3) | **D5: Suggest** possible further development of the data dashboard produced.(PO3) |

**Assessment Guidance**

This assessment guidance gives you information to meet the assessment criteria. There might not be additional assessment guidance for each criterion.  It is only given where it is needed. You must read this guidance before you complete your evidence.

|  |  |
| --- | --- |
| **Assessment Criteria** | **Assessment guidance** |
| P11 | * There is no assessment guidance for this criterion.
 |
| P12 | * Students **must** describe the similarities and differences between their data dashboard and the client requirements outlined in the scenario.
 |
| M6 | * There is no assessment guidance for this criterion.
 |
| D4 | * This is an extension of **P12**. Students will make reasoned judgements on how well client requirements have been met.
 |
| M7 | * There is no assessment guidance for this criterion.
 |
| D5 | * There is no assessment guidance for this criterion.
 |

# NEA Command Words

The table below shows the command words that may be used in the NEA assignments and/or assessment criteria.

|  |  |
| --- | --- |
| **Command Word**  |  **Meaning**  |
|  **Adapt**  | * Change to make suitable for a new use or purpose
 |
|  **Analyse**  | * Separate or break down information into parts and identify their characteristics or elements
* Explain the different elements of a topic or argument and make reasoned comments
* Explain the impacts of actions using a logical chain of reasoning
 |
|  **Assess**  | * Offer a reasoned judgement of the standard or quality of situations or skills. The reasoned judgement is informed by relevant facts
 |
|  **Calculate**    | * Work out the numerical value. Show your working unless otherwise stated
 |
|  **Classify**  | * Arrange in categories according to shared qualities or characteristics
 |
|  **Compare**  | * Give an account of the similarities and differences between two or more items, situations or actions.
 |
|  **Conclude**  | * Judge or decide something
 |
|  **Describe** | * Give an account that includes the relevant characteristics, qualities or events
 |
|  **Discuss** (how/whether/etc)  | * Present, analyse and evaluate relevant points (for example, for/against an argument) to make a reasoned judgement
 |
|  **Evaluate**  | * Make a reasoned qualitative judgement considering different factors and using available knowledge/experience
 |
|  **Examine**  | * To look at, inspect, or scrutinise carefully, or in detail
 |
|  **Explain**  | * Give reasons for and/or causes of something
* Make something clear by describing and/or giving information
 |
|  **Interpret**  | * Translate information into recognisable form
* Convey one’s understanding to others, e.g. in a performance
 |
|  **Investigate**  | * Inquire into (a situation or problem)
 |
|  **Justify**    | * Give valid reasons for offering an opinion or reaching a conclusion
 |
|  **Research**  | * Do detailed study in order to discover (new) information or reach a (new) understanding
 |
|  **Summarise**  | * Express the most important facts or ideas about something in a short and clear form
 |

We might also use other command words but these will be:

* commonly used words whose meaning will be made clear from the context in which they are used
* subject specific words drawn from the unit content.