Are you ready for the synoptic project?

Well done for all of your hard work so far on the Digital Modular Programme (DMP). It’s now time to begin planning and preparing your synoptic project. This is your opportunity to apply everything you have learned so far, and we want to make sure that you are as prepared as possible.

Within this document, you will find information about the requirements and format for this part of the assessment for this Level 4 Data Analyst module.

NB: This synoptic project is part of the mandatory assessment strategy for all qualifications in the DMP suite of qualifications. This project will not be required by learners accessing any element of the DMP as part of an Apprenticeship.
Overview of the synoptic project

Working in a project-based environment, data analysts collate, analyse and present data in order to help inform business decisions.

The project will enable learners to demonstrate their analytical skills, their use of varied methods of presenting data analysis outputs, and their ability to distil key data analysis findings into a presentation. It requires learners to draw upon experience gained during their day-to-day work and design a project to address a data analysis task that is relevant to their role, although an alternative approach is available for learners who are not currently working in a data analyst role.

Top tip: Start with the end in mind! We encourage learners to familiarise themselves with the project early on in their DMP journey and to think about areas or topics that they might like to explore further in their project.

What should I write about?

The project focus and title can be flexible – any project can be considered, provided that it permits adequate coverage of the mandatory skills and behaviour requirements (please see page 5 for a breakdown of these skills and behaviours).

Potential areas of focus for the project could be:

1. **A real-world business solution.** This is where the project is focused on a real-work situation, either live client work (which can be anonymised) or where this forms part of a larger-scale or wider focused business activity.

2. **A simulated activity using a sample dataset provided by BCS.** This activity has been specifically designed to give learners an authentic experience of the data workplace.

Both of the options above are available to learners in a data role, as well as those who may be currently studying or working in a non-data related role.
How should I structure my work?

The project will follow the same structure whether you use your own data or a dataset from BCS, as per the options above. Follow the steps below to set out your project:

1. Identify the problem to be solved
2. Collect the data
3. Prepare and explore the data
4. Model the data
5. Validate and test the data
6. Visualise and communicate your findings

Top tip: These elements are not equally weighted – this means that learners would not be expected to spend the same amount of time on or produce as much for each of the six sections.

How long should the project be?

The project must represent a substantial piece of work; as such, the time requirement for this part of the assessment is 30 hours. These hours are included in the Total Qualification Time (TQT) of 320 hours.

A word limit of 3500 words applies to your project, with a 10% tolerance either way. Any additional reports, surveys or supporting documentation can be included as an annex, which would not contribute to the overall word count.

What should I submit?

To ensure thorough coverage of the required skills and behaviours, the files you submit for your project should reference the Data Analysis Lifecycle throughout, and should contain:

- An introduction
- Details of the project scope
- Details of the planning and design activities undertaken
- Collection and preparation log, including where you got your data from and what you did to it.
- Model, validation and testing of model, including any code and narrative of the model.
- Analysis and visualisation of the data
- A conclusion explaining the final solution and any improvements you would make

How will I submit my work?

Your project must be submitted electronically, and contain notes and guidance for the assessor so that they can easily identify where you have met the learning objectives and assessment criteria in your work. The final submission must be in a format that is straightforward to access, so that your work can be assessed against the stated criteria – these might include PowerPoint, Word, PDF or Excel.
What will I need to demonstrate to pass this assessment?

In order to pass this assessment, the learner will be required to demonstrate within their project report how they have met all of the following pass criteria:

- Identifies a problem or issue to be solved by data analysis.
- Describes the problem to be solved and how data analysis can present a solution.
- Illustrates plans to undertake each of the stages of the data analysis lifecycle.
- Collects data for use in the analysis process.
- Prepares and investigates the data collected.
- Uses statistical programming languages to prepare the data.
- Demonstrates the ability to model the data.
- Demonstrates an understanding of the different datasets and how they can be used to present an overall picture.
- Demonstrates the ability to validate data and test it.
- Demonstrates an understanding of contextual information and consideration for users.
- Presents evidence for a variety of trialled approaches and identifies how this informed next steps.
- Presents outputs of analysis explaining how it solves the problem.
- Presents outcomes and findings of data analysis in a clear and comprehensible manner.

**Important:** Learners must meet all Pass criteria in order to pass the module. Optional criteria may naturally occur in a non-simulated project. However, learners are not required to meet the optional criteria to obtain a pass.
Which skills and behaviours will I be able to demonstrate?

The following table outlines the learning objectives for the project.

**Top tip:** You will find it useful to refer to these grading criteria when you are planning and preparing your project.

<table>
<thead>
<tr>
<th>Pass criteria</th>
<th>Standard</th>
<th>Syllabus criteria</th>
</tr>
</thead>
</table>
| Identifies a problem or issue to be solved by data analysis. | B2 Demonstrate initiative, being resourceful when faced with a problem and taking responsibility for solving problems within their own remit.  
B3 Work independently and collaboratively.  
B5 Identify issues quickly, enjoys investigating and solving complex problems and applies appropriate solutions. | Data Analysis: 3.10, 4.6, 6.2  
Digital Core: 1.3, 7.4 |
<p>| Describes the problem to be solved and how data analysis can present a solution. | B4 Demonstrate logical and analytical skills.                                                                                      | Data Analysis: 5.1-5.4, 6.1-6.6          |
| Illustrates plans to undertake each of the stages of the data analysis lifecycle. | S2 Implement the stages of the data analysis lifecycle.                                                                         | Data Analysis: 6.1                      |
| Collects data for use in the analysis process.          | S8 Identify data sources and the risks, challenges to combination within data analysis activity.                                    | Data Analysis: 5.1, 5.2                  |</p>
<table>
<thead>
<tr>
<th>Activity</th>
<th>Skill Description</th>
<th>Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepares and investigates the data collected.</td>
<td>S4 Analyse data sets taking account of different data structures and database designs.</td>
<td>Data Analysis: 6.4, 6.6</td>
</tr>
<tr>
<td></td>
<td>S10 Apply statistical methodologies to data analysis tasks.</td>
<td></td>
</tr>
<tr>
<td>Uses statistical programming languages to prepare the data.</td>
<td>S3 Apply principles of data classification within data analysis activity.</td>
<td>Data Analysis: 6.2</td>
</tr>
<tr>
<td>Demonstrate the ability to model the data.</td>
<td>S13 Use a range of analytical techniques such as data mining, time series forecasting and modelling techniques to identify and predict trends and patterns in data.</td>
<td>Data Analysis: 6.3, 6.4, 6.5</td>
</tr>
<tr>
<td>Demonstrates an understanding of the different datasets and how they can be used to present an overall picture.</td>
<td>S8 Identify data sources and the risks, challenges to combination within data analysis activity.</td>
<td>Data Analysis: 5.1, 5.2</td>
</tr>
<tr>
<td>Demonstrates the ability to validate data and test it.</td>
<td>S15 Select and apply the most appropriate data tools to achieve the best outcome.</td>
<td>Data Analysis: 5.1-5.4, 6.1-6.6</td>
</tr>
<tr>
<td></td>
<td>B4 Demonstrate logical and analytical skills.</td>
<td></td>
</tr>
<tr>
<td>Demonstrates an understanding of contextual information and consideration for users.</td>
<td>S5 Assess the impact on user experience and domain context on the data analysis activity.</td>
<td>Data Analysis: 3.6</td>
</tr>
<tr>
<td></td>
<td>B3 Work independently and collaboratively.</td>
<td></td>
</tr>
</tbody>
</table>
| Presents evidence for a variety of trialled approaches and identifies how this informed next steps. | B6 Demonstrate resilience by viewing obstacles as challenges and learning from failure.  
B7 Demonstrate an ability to adapt to changing contexts within the scope of a project, direction of the organisation or Data Analyst role. | Digital Core: 2.1, 5.1, 7.4 |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Presents outputs of analysis explaining how it solves the problem.</td>
<td>B5 Identify issues quickly, enjoys investigating and solving complex problems and applies appropriate solutions.</td>
<td>Digital Core: 1.3, 7.4</td>
</tr>
<tr>
<td>Presents outcomes and findings of data analysis in a clear and comprehensible manner.</td>
<td>S14 Collate and interpret qualitative and quantitative data and convert into infographics, reports, tables, dashboards and graphs.</td>
<td>Data Analysis: 6.6</td>
</tr>
</tbody>
</table>
Extra top tips for learners

Finally, here are our key pieces of advice for learners preparing their project:

1. Plan your time wisely – e.g. you should approach this piece of work as if it were a real-life project.
2. Document what you do – e.g. things will fail, but this does not mean that they are not worth writing about. For example, you might like to discuss why they failed? What did you learn? How did this have an impact on your next steps?
3. Use tools that you are familiar with – e.g. do not be tempted to use new or unfamiliar tools for the project, as this could waste time.
4. Don’t be afraid to make assumptions – e.g. data will not be perfect. Do not be tempted to cleanse it beforehand, as this would leave a large chunk of work undocumented and you may not be able to evidence many of the key behaviours above.
5. Show your thought process – e.g. think about how you have used logic or problem-solving techniques to approach and break down a problem. Make sure you document this!

You can find more information in the Data Analyst syllabus or the DMP Qualification Guide.

Good luck!