BPP Coursework Cover Sheet

Please use the table below as your cover sheet for the 1st page of the submission. The sheet should be before the cover/title page of your submission.

Programme	BSc (Hons) Data Scientist
Module name	Data Analytics
Schedule Term	
Student Reference Number (SRN)	
Report/Assignment Title	
Date of Submission ***(Please attach the confirmation of any extension received)***	

Declaration of Original Work:

I hereby declare that I have read and understood BPP's regulations on plagiarism and that this is my original work, researched, undertaken, completed and submitted in accordance with the requirements of BPP School of Technology.

The word count, excluding contents table, bibliography and appendices, is _____ words.

Student Reference Number: Date:

By submitting this coursework you agree to all rules and regulations of BPP regarding assessments and awards for programmes. **Please note, submission is your declaration you are fit to sit.**

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BPP School of Technology

BSc (Hons) Data Scientist

Data Analytics

Coursework Assessment Brief

Submission mode: **Turnitin online access**

1. Assessment Brief

This assessment brief gives you an overview of the formative and summative assessments that are part of this module. The learning outcomes below will be tested in the assessment contained in this brief.

1.1. Module Learning Outcomes (LOs)

By the end of this module, participants will be able to:

1. Apply basic statistical analysis techniques, including linear regression, logistic regression, k-means clustering, and time series analysis;
2. Analyse and interpret statistical information from datasets within your organisation;
3. Structure a scientific and evidence-driven approach to a work-based challenge;
4. Make recommendations to decision makers to contribute towards the achievement of organisation goals.

2. Assessment Overview

This module is assessed through the completion of a combination of eLearning, written and practical tasks. The module has two forms of assessment (formative & summative). Your summative assessment for this module is made up of a **12-minute RECORDED presentation** that should:

- Describe the data analytics task and the data set that you have chosen.
- Interpret the results from your analysis.
- Present recommendations based on the insights gained from the analysis.

Formative Assessment

- The formative submission is an opportunity to get feedback on a draft version of your presentation slides only (not recorded). For the formative, you should submit a pdf document of your slide deck. The expected sections for the formative are noted in section 3.2.

Summative Assignment

- A 12-minute recorded presentation covering the Executive summary, Project background, Methodology, Results, and potential business impact of the data analytics project.
- Slide deck to support the oral presentation
  (recommended 10 slides, including executive summary)

Please note ensure you read the general assessment guidance at the end of this document.

3. Assessment Structure/Guidance (Formative & Summative)

You should identify a business challenge within your organisation where the application of data analytics can contribute towards addressing the challenge. Usually, this will be a situation where advanced statistical analysis can provide more insight than simple descriptive statistics.

Examples include:

- Improving customer retention: Using data analytics to analyse customer behaviour and preferences and identify potential opportunities for customer retention activities.
- Optimising marketing campaigns: Using data analytics to analyse customer behaviour, preferences, and purchase history to identify target audiences and optimise marketing campaigns.
- Improving operational efficiency: Using data analytics to analyse operational processes and identify areas for improvement, such as reducing waste or improving customer service.
- Optimising pricing strategies: Using data analytics to analyse customer behaviour, preferences, and purchase history to identify pricing strategies that will optimise revenue.
- Improving product innovation: Using data analytics to analyse customer behaviour and preferences to identify areas for product innovation.

Not all data analytics tasks are suitable choices for this summative assessment. For a task to be suitable it must:

- Require the use of **at least** one advanced statistical technique (preferably with potential to also apply additional techniques in future)
- The advanced statistical techniques that can be used for this assignment includes, but is not limited to:
    - AB testing (although this is not enough on its own, you will need to also include something more advanced in your submission)
    - Time Series Analysis
    - Linear Regression
    - Logistic Regression
    - K-Means Clustering

- Align to the objectives of at least one internal stakeholder in your organisation

This project must be based on real work-based practice it will contribute to your portfolio of evidence. This will affect your grade at the end of the programme.

As your final submission, you should produce a **professional presentation** which has the following structure:

- Executive summary
- Project Background
- Section A
- Section B
- Section C

3.1 Summative Assessment

Section A – Methodology (LO 2)

Describe the data analytics task and the data set that you have chosen. Explain the advanced statistical techniques you have chosen and explain why you have chosen them and how they will address the chosen business challenge.

Section B – Results (LO 2)

Provide a summary of the results from your analysis. Present any graphical representations of the data. Explain what insights were gained from the analysis.

Section C – Impact & conclusion (LOs 1,3)

Present recommendations based on the insights gained from the analysis. Suggest any potential follow-up work or further research. Write a conclusion summarising the key points of the analysis.

Reference list

Reference any external resources used using the Harvard referencing format.

3.2 Formative Assessment

Your formative assessment should be a draft of the slide deck in a **pdf format** which will be submitted as part of the final summative submission. You may not be able to report on the actual results of your analysis, but you should still include "placeholder" slides which demonstrate the potential results and how you would present them to stakeholders.

The purpose of the formative is to give you the opportunity to receive feedback and guidance before submitting the summative assessment.

3.3 Submission Process

Note that this will NOT be a live presentation and you will be expected to record your presentation and submit it by the deadline date stated on the HUB. As such, you should choose and test your method of recording well in advance and should not leave the final recording to the last day.

Technical issues will not be accepted as a reason for late submission, so it is imperative that you test your chosen method and record your presentation well in advance of the deadline. Recordings must be accessible to all who try to access them, we suggest a **YouTube video** (set as **unlisted** (unsearchable) so it cannot be found by anyone without the link). This is easy, reliable and you simply then have to submit the link to your YouTube video in your slide deck. You can also record your presentation on individual slides in Power Point.

If you wish to use an alternative method, then simply check with your module tutor. NOTE: If you are unable to discuss elements of your organisation due to NDA or corporate security concerns, discuss your sector and make suggestions suitable for a comparable size and type of organisation.

In the Turnitin you should submit:

• A copy of your presentation slides

• A link to the recording of your presentation, this link can be included in your presentation slides (feature on the introductory slide or included as an appendix).

4. Alternative Case Study

You must select a publicly available dataset and develop your presentation to this submission as if this were work-based data. This project will form part of your data science portfolio and must cover all the learning outcomes of the module.

In your submission make it clear how all the Learning Outcomes are addressed and provide a short explanation of why you feel the data selection meets the requirements of module and showcases your analytical skills.

Criterion & Learning Outcome Statement		0-39% Fail	40-49% Low Pass	50-59% Pass	60-69% Good Pass	70% + Strong Pass
Knowledge and Understanding	*Apply basic statistical analysis techniques, including linear regression, logistic regression, k-means clustering, and time series analysis;* *20%*	**Inadequate** understanding of statistical techniques and failure to relate them to the project's context or organizational objectives. Difficulty in differentiating between techniques or applying them correctly.	**Satisfactory** understanding of statistical techniques. Provides some context related to the project and organizational objectives but shows limited depth in the understanding and differentiation of these techniques.	**Good** understanding with a clear connection between the statistical techniques and the project context. Adequate relevance to organizational objectives, though the understanding of core processes and applications is somewhat limited. Consideration of several alternatives discussed.	**Very good** understanding of statistical concepts with a strong link to project background and organizational objectives. Capable of selecting and justifying the use of specific statistical techniques for business problems. Emerging use of literature to support statements. Consideration of several alternatives discussed.	**Outstanding** Excellent understanding of statistical techniques and their application. Demonstrates a detailed connection between the technique, project context, and organizational objectives, including a comprehensive discussion of potential drawbacks and issues with the chosen techniques. Use of strong sources of literature to support statements. Consideration of various alternatives provides insight into depth of understanding of the application of statistics to solve specific business tasks.
	Analyse and interpret statistical information from datasets within your organisation; *20%*	**Very Limited** or no analysis of data. Results are not interpreted or connected to organizational impact. Lacks insight and fails to identify key findings relevant to the organization.	**Basic** data analysis with superficial interpretation. Shows minimal connection between results and organizational impact. Insights and findings are vague or barely relevant to the organization's objectives**.**	**Adequate** analysis of data with some interpretation. Demonstrates a moderate understanding of how results impact the organization. Identifies some insights, but they may lack depth or full relevance to the organization's specific goals.	**Solid** data analysis with clear and relevant interpretation. Shows a good understanding of the organizational impact of results. Provides meaningful insights that are aligned with the organization's objectives. Analytical outputs are explained, appropriate conclusions are drawn, and the potential business value is highlighted.	**Excellent** understanding of results and identifying potential real-world limitations. Comprehensive and sophisticated data analysis. Results are interpreted expertly, drawing strong connections to organizational impact. Delivers deep insights that are highly relevant and beneficial to

						achieving the organization's goals.
	Structure a scientific and evidence-driven approach to a work-based challenge; *25%*	**Methodology** inadequately explained, even at a high level, providing little evidence of an awareness of the need to comply with a formal structure / process. Hypotheses / assertions are not presented, leaving the reader unsure of what it is being tested. Student does not take a critical and objective approach to their work.	**Methodology** explained at a high level, evidencing awareness of the need to comply with a formal structure / process. Hypotheses / assertions are presented, imprecisely articulated and largely untestable. Student does not take a critical and objective approach to their work.	**Methodology** explained and some structure adhered to in approach. Hypotheses / assertions are presented, but somewhat vague or imprecisely articulated. Student clearly has an awareness of taking an experimental approach. Student has taken a critical and objective approach to their work.	**Methodology** explained and clear structure in approach. Hypotheses / assertions are clearly elucidated, and the subsequent discussion supports an experimental approach. Student has taken a critical and objective approach to their work.	**Methodology** explained and clear research approach followed to the level one would expect in a formal academic submission to a peer-reviewed journal or similar standard. Hypotheses / assertions are clearly elucidated and testable, with subsequent discussion supporting an experimental approach. Student has taken a critical and objective approach to their work.
	Make recommendations to decision makers to contribute towards the achievement of organisation goals. *25%*	**Inadequate** or no meaningful recommendations provided. Fails to connect recommendations to the organizational context or data science's potential impact. No use of literature to support assertions or future directions.	**Limited** recommendations made with minimal insight. Limited connection to the organizational context. Use of literature fails to effectively support recommendations or potential for data science in organizational context.	**Fair** recommendations with a moderate level of insight. Demonstrates an understanding of the organizational context. Literature is used to support recommendations and future directions, but not fully developed.	**Good,** insightful recommendations that are relevant to the organizational context. Effective use of literature to support future directions. Draws attention to the important aspects of data science and how it can benefit the organization.	**Excellent**, highly insightful recommendations that are strongly aligned with the organizational context and strategic objectives. Sophisticated use of literature to support comprehensive future directions. Clearly identifies and showcases the key points that make data science valuable to the organization.
Cognitive Skills	*Presentation skills* *5%*	Presentation skills are **inadequate**. The style is too informal and lacks structure. Little evidence of preparation or understanding of the topic. Key points and relevance to the task are unclear.	**Basic** presentation skills. The structure is present but weak, and the delivery tends to lack engagement. Some evidence of understanding and relevance, but the connection to key themes is not strong.	**Adequate** presentation skills. The structure and delivery are satisfactory with some level of engagement. Demonstrates a general understanding of the topic with a connection to key themes but lacks depth or originality in presentation.	**Good** presentation skills. Structured and engaging delivery. Demonstrates clear understanding of the topic. Key themes are well-connected and presented with some original insights.	**Excellent** presentation skills. Highly structured, engaging, and polished delivery. Demonstrates an in-depth understanding of the topic with original insights. Effectively connects all key themes, showing a high level of preparation and reflection.

	Referencing 5%	**References** missing or tend to be irrelevant. Submission lacks support for key concepts and declarative statements.	**References** tend to be generic and somewhat related to the subject in general. Several key concepts and declarative statements are not supported. Incorrect referencing style used.	**Relevant** and appropriate references and citations, with some generic references, minor omissions, or occasional errors. Harvard referencing style used but requires attention.	**Relevant** and appropriate references and citations, with minor reference to generic themes. Minor omissions, or insignificant errors. Correct application of Harvard Referencing Style.	**Relevant** and appropriate references and citations; strong focus on references and connecting literature to project themes. No apparent omissions or errors are evident. Correct application of Harvard Referencing Style.