**2021/2022**

**Module: Business Statistics with Python (BUSN9690)**

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| Student name: |  |
| Login: |  |
| Student declaration: | I confirm that: This is an original assessment and is entirely my own work. Where I have used ideas, tables, figures of other authors, I have acknowledged the source in every case. This assignment was not submitted previously as assessed work for any other academic course. |
| Student’s signature: |  |
| Date of signature: |  |

**Instruction**

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| Plagiarism: | This is an individual assignment and must be your own work. Collusion, copying or plagiarism may result in disciplinary action. Your report will be checked by the Turnitin system for plagiarism.  We advise that you keep a copy of this assignment. |
| Total marks: | 100% |
| Weighting: | 60% |
| Submission method | * Only submit your PDF-formatted report to the turnitin system on [Moodle](https://moodle.kent.ac.uk/2020/mod/turnitintooltwo/view.php?id=323323); * Do not print your Word-formatted file to a PDF file. Instead, you should save your Word-formatted file to a PDF file. The reason is that the turnitin system does not allow you to upload a printed PDF file. * Only copy and paste the first page of this document onto your report, but not any other pages of this document. |

**Requirements**:

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| You are expected to produce a data analysis report. The data can be data you gather yourself.  Your report should at least use the following two techniques:   * Hypothesis Testing, and * Estimation of Confidence Intervals. |

**Length**

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| The report should include up to 2500 words (excluding abstract, references) and up to 10 pages (including references and cover page). If it exceeds ten pages, the markers reserve the right not to mark the extra pages. |

**Aim:**

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| The aim of this assessment event is to gauge your learning outcomes of the business statistics part of the module BUSN9690. |

**Area of research**  
In this assignment you will be expected to find statistical information of interest to you (broadly related to business, economics or society), and then write a report that presents the data effectively. You need to explain what it is, why it is interesting to the reader, and what can be deduced from it.

You can choose almost any other topic you like. However, we have found that general macroeconomic data **do not** provide a suitable basis for this report: topics such as “the growth of the UK economy” or “the development of German exports” are **not acceptable**; we need something more focused. Furthermore, although many students like to use sport as their area of study, such reports tend not to generate the depth of analysis required to obtain a good mark. In particular, comparison of two sports (wo)men is not acceptable**.**

From past experience, medical and social trends have often proved fruitful. Good reports are published by official bodies such as government departments where there is sufficient data in the public domain as the basis for a good report. It is certainly interesting to look at commercial organisations, but make sure that they have published enough data before you embark on your project.

It is up to you to use some initiative and to follow something that you find interesting. It is not advisable to collect data yourself; the effort required would be disproportionate to the marks available, especially since the project would be subject to the university’s and Business School’s ethical policies which involve additional approval and paperwork.

**Structure of report**  
If you look at the marking criteria (included in the module guide), you may consider the following structure:

* Introduction: setting context and explaining what has been done and why your report is needed
* Report body: including data collection and data analysis
* Conclusions: concluding your findings and making recommendations
* References

**Marking Criteria**

Explanations of how the generic criteria will be interpreted for this particular report are shown in **red**

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| Mark | Reading & Knowledge | Understanding, analysis and argument | Organisation and presentation |
| 100  95  85 | Very extensive reading and exceptionally comprehensive knowledge which indicates a high level of independent background research   * Enterprising research into data sources * Excellent appreciation of the relevance of the data to the context | Very full and perceptive awareness of subject matter, with original critical and analytical assessment of the issues and excellent grasp of their wider significance. Combines a comprehensive understanding of theoretical issues and empirical application. Clear evidence of a high level of originality and independent thought along with an ability to defend a position logically and convincingly with arguments presented that are sophisticated and highly challenging   * Excellently applied statistical analysis methods * Excellently written commentary and interpretation which shows genuine original thought * Excellent appreciation of relationship between ideas * Very clear conclusions showing critical appraisal and depth of analysis | Very well structured piece of work demonstrated by an excellent arrangement & development of material and argument. Excellent English and meticulous presentation, with immaculate referencing and extensive bibliography   * All parts present, linked and clearly labelled and with an excellently thought through argument * Outstanding introduction, perfect coverage which captures the reader’s interest * Outstanding presentation and description of the data * Illustrations/graphs/tables: excellent design, eye-catching |
| 78  75  72 | Wide reading and comprehensive knowledge of the subject matter which goes beyond the course material and lectures   * Very good research into data sources * Very good appreciation of the relevance of the data to the context. | Full and perceptive awareness of issues, demonstrating an appreciation of all major points and a clear grasp of their wider significance. Clear evidence of independent thought, ability to defend a position logically and convincingly. At the higher end can make linkages between theoretical issues and empirical application and also demonstrates some originality and flair   * Very well applied statistical analysis methods * In the commentary and interpretation, develops original ideas and conveys them well * Clear appreciation of relationship between ideas * Clear conclusions that follow logically from earlier analysis | Well-structured piece of work with very careful thought given to arrangement and development of material and argument. Excellent English with appropriate referencing and comprehensive bibliography.   * All parts present, linked and clearly labelled * Excellent coverage in introduction, clear and well written * Very good presentation and description of the data * Illustrations/graphs/tables: very effective, good design |
| 68  65  62 | Good range of reading and good knowledge which comprehensively covers course material and may go beyond this   * Good research into data sources * Good appreciation of the relevance of the data to the context. | A comprehensive argument demonstrating a sound awareness of issues and a serious understanding of their wider significance. Evidence of careful thought with a well developed argument. Use of theories, concepts and research findings which are largely precise although there may be minor factual errors or inaccuracies   * Well applied statistical analysis methods * In the commentary and interpretation, develops clear ideas * Shows how ideas can relate to each other * Conclusions follow from main body of report, but may miss some elements or introduce new topics | Well-organized answer with a clear structure which facilitates the development of material and argument. Good English with appropriate referencing and bibliography.   * Headed sections and logical connection between them * Introduction covers everything that is to come in the report but not perfectly expressed * Everything relating to the data necessary for the reader’s understanding has been presented but maybe lacking extra detail * Illustrations/graphs/tables: effective and correctly presented |
| 58  55  52 | Fair range of reading and reasonable knowledge of course material   * Competent research into data sources * Narrower appreciation of the relevance of the data to the context. | Essay is a satisfactory response to the question. It demonstrates some grasp of theory and its relation to empirical data but less awareness of issues and their wider significance. It is largely accurate but may contain more than minor errors such as incorrect facts or errors of omission. There may be some attempt at serious argument but this is not fully developed. The essay may appear correct but lacks originality and clarity of though for an above average grade.   * Adequately applied statistical analysis methods * In the commentary and interpretation, covers the essentials, but does not develop ideas or the linkages between them * Some conclusions, but missing some key elements of what has been presented before | Adequate effort to organise the material and argument. Adequate English with reasonable referencing and bibliography   * Must have headed sections but with limited flow of argument * Introduction says what is in the report but lacks clarity or sufficient detail * Presentation and description of the data clear but lacking inspiration or interesting detail * Illustrations/graphs/tables: presents essential information at a basic level |
| 48  45  42 | Limited reading and incomplete knowledge of course material   * Limited research into data sources, * Bare appreciation of the relevance of the data to the context. * Shows a lack of appropriate effort | Limited awareness of issues and of their wider significance. The information it contains is insufficient and theories and concepts used may contain errors, omissions and irrelevancies. Limited thought and argument.   * Limited application of statistical analysis methods * Basic and limited commentary, not going beyond minimum * No real appreciation of relationships between ideas * Very basic conclusions | Structure of the essay is weak and there is a limited effort to organise material and argument. Satisfactory English but with limited referencing and bibliography   * Some structure, discernible separation of parts but no useful headings * Introduction covers what is to come, but only in barest form * Adequate amount of data presented, but appreciable gaps and/or poorly written description * Illustrations/graphs/tables: shows some information but poorly presented and difficult to understand |
| 38  35  32 | Very limited reading and knowledge with evident gaps in knowledge. Lack of familiarity with course material is evident   * Very limited research into data sources * Virtually no appreciation of the relevance of the data to the context. * A serious lack of effort. | Very limited awareness of issues and of their wider significance and contains a small amount of acceptable and relevant information. Clearly deficient answer which contains substantial errors, omissions or irrelevancies   * Inadequate application of relevant statistical analysis methods * Some commentary and interpretation but much missing or presents difficulties in understanding * Almost nothing within conclusions linking to earlier analysis | Structure is largely absent indicating very little effort put into organising material. Significant errors in English and poor referencing and bibliography   * Poorly structured, no sections, little connection between parts * Introduction contains very few words or is an inadequate description * Can just see something of potential interest in the data but no proper description * Illustrations/graphs/tables: minimal, very poorly presented |
| 25  20  10  0 | Very poor level of reading and failure to demonstrate competent knowledge. Knowledge of course material is completely absent   * No real effort shown to identify relevant data and appreciate the context | Lacks familiarity with the subject, demonstrating very poor awareness of issues and of their wider significance. Competent understanding is absent and essay is characterised by confusion   * No application of relevant statistical analysis methods * Very little or no intelligible commentary or interpretation * No proper conclusions | Essay is structureless and there is a clear lack of organisation of material. Substantial errors in English and very poor or absent referencing and bibliography.   * No discernible structure * No or very minimal introduction * Little or nothing of any substance in description of the data * Illustrations/graphs/tables: none, illegible, unintelligible |