Data Science and Big Data Analytics

UCL International Summer School for Undergraduates 2018

**Assessment Computer Practical and Write-up (25%)**

This assessment involves carrying out a described data analysis.

You must submit a R notebook containing the code completed along with a commentary on the work completed and a discussion of the results.

This should include:

* the code you have written to complete the tasks (this may include partially completed sections);
* appropriate figures and tables to show the results;
* inline commentary to outline the work completed briefly noting the methods and results, including any requested discussion points noted in the task list.
* discussion and a final paragraph that summarises the work completed in the context of the data, describing the relevance, importance and uses of the work, along with a critical evaluation of the outcomes, and where appropriate discussion how the work could be extended.

Marks will be given for the following components:

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| **Component (details overleaf)** | **Marks** |
| Task completion | 40 |
| Use of Figures | 30 |
| Introduction, Commentary, Summary | 40 |
| Coding technique | 10 |
| Writing Standard | 10 |
| Presentation | 10 |
| **Total** | **140** |

**Grading Criteria:**

Grading is carried out in accordance with the key indicators in the standard UCL report mark scheme. Additional guidance on the individual component grading, in particular reference to this assessment is provided below:

***i) Task Completion***

Marks will be assigned in terms of tasks completed.

0-7 Incomplete tasks, or tasks for which code which is non-functioning code or bugs will be awarded partial marks.

7.5 Full completion of all tasks with no omission

7.5-10 If work has been done that exceeds the task specification to develop the investigation in a meaningful way higher grades may be awarded (see criteria below).

***ii) Use of Figures / Commentary / Summary and Evaluation / Writing Standard / Presentation***

9-10 Work handed is of a publishable standard. (nothing substantial to object to).

8-9 Work handed in exceeds requirements of the first class, showing evidence that students understanding and ability has been developed beyond the scope of the core materials and objectives. May need minor edits to reach publishable standard. Discussions are rounded and complete, and accurately evaluate the work completed in the context of the problem.

7-8 Work handed is of a very high standard with no omissions and shows a thorough understanding of the work carried out with respect to the materials covered in lectures and activities. Discussions are rounded and complete with a critical evaluation of the work carried out.

6-7 Work is complete and of a good standard. Some misunderstandings or omissions with respect to core lecture materials or activities may be present but arguments made are broadly correct.

5-6 Work submitted is appropriate to the investigation and is of a satisfactory standard, but contains significant (minor) flaws. The work may include multiple instances where mistakes or omissions are made.

4-5 Works submitted contains some satisfactory elements, and displays some understanding of relevant facts but includes numerous instances where mistakes, omissions or irrelevances are made, with respect to core materials covered in lectures.

2-4 Works submitted contains few satisfactory elements with major omissions, irrelevancies and/or misunderstandings made with respect to core materials covered in lectures. Work may be unfocussed but at least contains evidence of structured attempt.

<2 Little or no evidence presented of work that is relevant to the investigation. Writing is unstructured, unfocussed or unacceptably brief.

***iii) Coding Technique***

9-10: Code for completed tasks demonstrates techniques that are above and beyond lecture material.

6-8: Code for completed tasks is all fully functional. Code is presented in understandable form, and generally adheres to good coding practises, but may not be fully optimised.

4-5: Majority of code for completed tasks is functional. However code is difficult to interpret e.g. may be poorly formatted, structurally badly organised, inefficient, and uncommented.

0-3: Majority of code included in the submission is missing/non-functional