

CMP9139M Research Methods – Assessment Item 2 RESIT

|  |
| --- |
| **Module Code & Title:** CMP9139M Research Methods **RESIT** |
| **Contribution to Final Module Mark:** 100% |
| **Description of Assessment Task and Purpose:**  This assignment is concerned with research data gathering, analysis and interpretation – you will obtain a dataset, investigate quantitative methods for analysing this data using inferential statistics, design an appropriate methodology, conduct your own data analysis using appropriate software and reflect upon the results. The assessment involves writing a 4-page report in the format of a scientific article.    Your first task is to acquire a non-trivial research dataset. This task might involve the design of a methodology for collecting data as a primary part of the research – for example, by constructing a survey to elicit data from a chosen user group. Alternately you may take a pre-existing dataset from another source, which should be acknowledged in your report, where you then focus more on the analysis of this data. A few indicative examples of possible datasets could include (but are not limited to):   * “fantasy football” player performance statistics, * multi-user virtual reality data, * performance statistics versus ground-truth data for a computer-vision recognition system,  etc.     The choice of dataset can be oriented towards your own personal interests, such as data relating to your Research Project, etc., and you must submit only original work which has not been submitted for any other assignment (or which is intended to be used for another assignment). If in doubt, please discuss the choice of dataset with a member of the module delivery team at the earliest available opportunity.    The next task is to investigate the existing research methods and background literature for acquiring and analysing similar datasets. Please note that the focus of this task should be more than the domain-specific methods used for solving a particular research problem (e.g. if a research paper describes the development of an artificial neural network system for stock market prediction, we are most interested in the methods used to evaluate the system performance in predicting stock market trends, not the details of the neural network model itself). Please note also that the literature review should focus on literature relating to your own research question, not “textbook” literature on research methods in general.    Based on the background research, design and implement an appropriate methodology for analysing your chosen dataset. You will need to identify an appropriate research question (or questions) or hypothesis to test. For example (and not limited to these examples):   * evaluating the effect of the full moon on behaviour, * deciding whether hospital carpeting results in more infections, * selecting the best means to stop smoking, * testing whether acetaminophen or ibuprofen helps faster with headaches  etc. |

|  |
| --- |
| *Please note*: you must apply inferential statistics to draw conclusions about the population under consideration from the sample data, for example, by applying techniques introduced in the module such as confidence intervals or statistical tests (t-Test, ANOVA, Spearman Correlation, etc). Your analysis must be non-trivial – for example, just applying descriptive statistics such as mean and standard deviation would not be sufficient. Descriptive statistics should however be used to justify the choice of techniques. If you are in doubt, please discuss the choice of methodology with a member of the module delivery team at the earliest available opportunity.    Take care to justify the choice of research techniques in your report, including discussion of the alternatives considered. You should make sure to explain and describe the techniques applied with sufficient clarity to allow other researchers to replicate your findings if desired. Please make sure to describe the approach and software that you used to carry out statistical testing. Consider how to best present you results, e.g. using tables, graphs, etc. Discuss the results obtained and the conclusions inferred with respect to the original research hypothesis or question. Finally, reflect on the value of quantitative approaches in respect to your study. How does this differ from qualitative approaches, and could the latter be valuable/how?    There is one element to this Assessment:  1. Submission of a report (maximum 4 pages in length using the assigned template, including figures and references), in the style of a scientific paper. Instructions and guidance for this appears below. This element is worth 100% of the grade for Assessment Item 2. |
| **Learning Outcomes Assessed:**  On successful completion of this component a student will have demonstrated competence in the following areas:  [LO1] Identify an appropriate area for study contextualised by the award being studied.  [LO2] Critically evaluate, select and apply research methods in the specialist area of study.  [LO3] Demonstrate practical skills in the development of a research proposal and literature survey. |
| **Knowledge & Skills Assessed:**  Subject Specific Knowledge, Skills and Understanding: Literature searching, Referencing, Numeracy, Project Planning, Techniques and Skills (statistics, data analytics), Subject-specific knowledge.  Professional Graduate Skills: Independence and personal responsibility, adaptability, verbal communication, written communication, creativity, critical thinking, IT skills, self-reflection and life-long learning, problem solving, effective time management, working under pressure to meet deadlines, leadership.  Emotional Intelligence: Self-awareness, self-management, motivation, resilience, selfconfidence.  Career-focused Skills: Skills (see above) and attributes (see above) required by employers. |
| **Assessment Submission Instructions:**  The deadline for submission of this work is included in the School Submission dates on Blackboard.    Submission will be made electronically through Blackboard to the Assessment Item 2 upload area for this module. The electronic submission will be to Blackboard as a single PDF file.    You should also submit your dataset as a ZIP file (no other format will be accepted) in the Supporting Documentation area. You should include a file README.txt in the ZIP file to explain the format of your dataset. |
| *DO NOT include this briefing document with your submission.* |
| **Date for Return of Feedback:** |
| **Format for Assessment:**  Write a 4-page report using the IEEE conference paper format (see: <https://www.ieee.org/conferences/publishing/templates.html>where both LaTeX and Word templates may be obtained) with a maximum of 4 pages including figures and references. Appendices or additional pages are not permitted. The report should be written in your own words and follow the general format of a scientific paper. The report should have the following sections (*with a suggested length for each*):   * Title * Abstract * Introduction (*approx. ½ page*), including motivation for the topic, choice of dataset, and research hypothesis or question(s). * Related Work, comprising a literature survey of existing research methods considered for data acquisition and analysis (*less than 1 page*). * Methodology (*less than 1 page*), including a thorough description of the research techniques applied in practice. * Results (*less than 1 page*). * Conclusion (*approx. ½ page*), including further discussion of the results and your conclusions with respect to the original research hypothesis or question.  References   Your written work for this assessment should be submitted via Blackboard (PDF format), together with a copy of your data set (ZIP archive), according to the Submission Instructions above. |
| **Feedback Format:** |
| **Additional Information for Completion of Assessment:**  Students are encouraged to use any lecture and their own personal notes to assist them with the completion of the assessment. Also, students are allowed to use any library and/or online resource as a guide on how to solve the assessment problems |
| **Assessment Support Information:**  Students are encouraged to seek assistance from any member of the delivery team for discussion and clarifications as required, as a means to complete the assessment. |
| **Important Information on Dishonesty & Plagiarism:**  University of Lincoln Regulations define plagiarism as 'the passing off of another person's thoughts, ideas, writings or images as one's own...Examples of plagiarism include the unacknowledged use of another person's material whether in original or summary form. Plagiarism also includes the copying of another student's work'.  Plagiarism is a serious offence and is treated by the University as a form of academic  dishonesty. Students are directed to the University Regulations for details of the procedures and penalties involved.    For further information, see [www.plagiarism.org](http://www.plagiarism.org/) |