

# GER1000 Quantitative Reasoning

## Group Project Instructions

### AY2018/2019, Semester 2

1. **(Nature of Project)** You are to critically evaluate a research article and a related news article, to be chosen from [this list](#). Using what you have learnt in the module, describe some good features and some less satisfactory features, if any, of the two articles.

You need to submit **three** documents, which should state the full names and student numbers of all group members. There is no need for a bibliography. References to key passages in the two articles are encouraged. Avoid displaying elaborate calculations.

First read up to Point 6 (2 pages). Then you may find more tips in Point 7.

2. **(Timeline)** Colored texts are hyperlinks.

Weeks 4-7	Choose a project (Point 1), work out division of labour within group. Submission of first presentation slides (Point 3), by <b>2359h, 8 March 2019 (Friday, Week 7)</b> .
Week 8-9	First presentation (Point 3). Tutor and peers to comment after presentation.
Week 10-11	Continue work based on feedback. Submission of second presentation slides and critique (Point 4), by <b>2359h, 5 April 2019 (Friday, Week 11)</b> .
Week 12-13	Second presentation (Point 4). Peer evaluation, if applicable.

3. **(First submission)** By **2359 hours, 8 March 2019 (Friday, Week 7)**, submit up to 5 slides in **PDF format** onto IVLE. The slides should support a presentation no longer than 10 minutes. The file name must be of the following form. For example, if you are in Group 4 of Tutorial Group E77, then it should be named

E77\_4\_slides1.pdf

Graphs and charts are encouraged. Avoid excessive words. Roughly speaking, you should describe the main findings as reported in the press article, identify their origins in the research article. You should also describe the design, sampling, and measurement aspects of the study.

You will be making the first presentation in the **fourth tutorial session**. Each group member should have a chance to present. Comments or questions will be provided by your tutor and peers.

4. **(Second submission)** By **2359 hours, 5 April 2019 (Friday, Week 11)**, submit, in **PDF format** onto IVLE:

- (i) Up to 15 slides, which should support a presentation no longer than 15 minutes.
- (ii) A **two-page A4-size critique** in font size 11 and 1.5-line spacing.

The total size of the two documents should not exceed 10 MB. The file names must be of the following form for Group 4 of Tutorial Group E77:

E77\_4\_slides2.pdf

E77\_4\_critique.pdf

The same tips for the first presentation slides apply to the second set of slides.

The critique should be written in grammatically sound sentences. Please read through this webpage to avoid plagiarism:

<http://www.cdt1.nus.edu.sg/success/sl7.htm>

5. **(Grading)** The 35% credit for the project comes from: first presentation (5%), second presentation (15%), and critique (15%). Here are some things we look out for when grading the projects:

- (i) Persuasive and sound reasoning, supported by correctly interpreted quantitative information.
- (ii) Clear communication and team work.

6. **(Peer Evaluation)** Should you feel there is an unfair distribution of workload within your project group, do not hesitate to approach your tutor. In response, your tutor can ask your group members to evaluate one another. Your tutor may also ask your group for peer evaluation unsolicited.

7. **(Additional Tips)** For some tips below, we suggest the relevant submission in parentheses, but it is also fine to apply a tip for the second submission to the first submission. You may think of the first submission as mainly factual, and the second submission as factual and evaluative.
- (i) You will likely find it difficult to go through the research article completely. A better strategy is to make the press article the starting base, and use what you learn in the module, such as the QR framework and the various chapters, to critically evaluate the key parts of the research article.
  - (ii) (first) You might wish to answer the following questions, if they are relevant to the topic. Is the study experimental or observational? If experimental, is there randomised assignment, or blinding? If observational, what potential confounders are identified? How are the main variables (exposure, response, potential confounders) measured?
  - (iii) (second) If you propose a potential confounder missed by the investigators, it is good to suggest how it is associated with the exposure and response. For example, for the association with exposure, say which of the two rates is higher. You need not explain why one is higher, unless the reason is clear.
  - (iv) (second) The typical data analysis section of a research article is large. Use the press article to highlight the important numerical findings. If a statistical test was used, try to do the following:
    - (a) State the null hypothesis in terms of an actual population. For example, instead of "There is no association between sleep and mental alertness.", use "There is no association between sleep and alertness among NUS undergraduates who matriculated in 2018.", if the study is about such subjects.
    - (b) You do not need to know how to calculate the  $P$  value, but should decide if the  $P$  value is supported by a random sampling process. Bear in mind that typically, a  $P$  value is hard to interpret if the samples were not randomly chosen from a population.
  - (v) (second) You may quote a short passage from the news article, and provide an improved version, together with an explanation of why your version is better.