



MM104/MM107
Statistics and Data Presentation Semester 2

Statistical Report Writing

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Report Writing

This will probably be your first experience of statistical report writing.

Your report should be 3-4 pages and should be a group effort. The report should be at least 750 words (not including title page, declaration table of contents and references). You should expect the length of your report (and the number of words) to increase as you learn more about statistics.

You only need to submit one report and should nominate someone to submit the report via the Myplace page each week.

What to include in the report

Your report should be well structured and should contain the following:

- ① a cover page
- ② declaration
- ③ introduction.
- ④ methods.
- ⑤ results and discussion.
- ⑥ limitations.
- ⑦ conclusion.
- ⑧ references.

What to Include - Cover Page

The cover page should contain at the very least

- ① Title of the report.
- ② Names and student numbers of all students in the group

What to Include - Declaration

The declaration should contain

- ① a list of all student members and their contribution to the project

What to Include - Introduction

The introduction at the very least should contain

- ① background information on the topic.
- ② project aims and objectives.

What to Include - Method

The methods at the very least should contain

- ① information on the data set.
- ② details on the statistical techniques used.

What to Include - Results and Discussion

The results and discussion at the very least should contain

- ① appropriate figures and tables.
- ② interpretation of the results and what they mean in the context of the topic.

What to Include - Limitations

The limitations changes each time depending on the topic. You should think about how your results could be improved and anything from the literature that could have impacted the results.

What to Include - Conclusion

The conclusion should summarise the report in its entirety and should reiterate the main findings. Make sure you relate this back to the project aims and objectives.

References

Your report must contain references, failure to include references is classed as plagiarism and is something the university takes very seriously.

You will not receive a first class on your project i.e. over 70 % if the references are inadequate.

Think about your sources, newspapers are generally not a good place to get information from as they are not reliable and will have a political leaning.

Wikipedia is a good starting point, but you should never cite Wikipedia.

Harvard Numerical Style - In text

We will use Harvard referencing particularly the numerical style. This is where all of your references are listed in numerical order and are given by a number in the text e.g.

The area of a circle, A , is given by

$$A = \pi r^2, \tag{1}$$

where π is a rational number approximated as 3.14 and r is the radius of a circle [1].

The reference is indicated by [1] and the equation is numbered via (1).

Harvard Numerical Referencing - List of References

At the end of the document in the reference section the reference [1] would appear as:

[1] Adler, D.A. (2014) *Perimeter, Area, and Volume: A Monster Book of Dimensions* 2nd edition. New York: Holiday House.

How to Reference a Book

What to include

- Surname and initial of author(s)
- Year the book was published
- Title and edition number
- Place of publication
- Publisher

Format

- Author, A. (year of publication) *Book title* Edition number. Place of publication: Publisher.

Example

- Adler, D.A. (2014) *Perimeter, Area, and Volume: A Monster Book of Dimensions* 2nd edition. New York: Holiday House.

How to Reference a Website

What to include

- Surname and initial of author(s)
- Year website was published/ last updated, if this is not available put the current year
- Title of website or resource
- Full web address
- Date you last accessed the site

Format

- Author, A. (year of publication/update) *Website title* [online]. Available from <URL> Last accessed: Day Month Year.

Example

- Miller, D. (2020) *Writing Statistics* [online]. Available from https://insertwebsitehere.com Last Accessed 14th December 2020.

How to Reference a Journal Article

What to include

- Author(s) in the order they are given in the journal
- Year the article was published
- Title of article
- Title of journal
- Journal volume and issue number
- Page numbers of the article

Format

- Author, A., Author, B. (year of publication) “Article Title”
Journal title volume number (issue number), page number-page number.

Example

- Miller, A., Mulholland, A.J., Pierce, S.G., Hughes, B. and Forbes, A.B., (2018) “Positional uncertainty in optical-based metrology systems in large volume manufacturing” *Acta IMEKO* 7(2), 15-19.

Referencing Software and Where to Look

Wikipedia is a good place to begin initial searching for information and every Wiki page has references at the bottom these are a good place to begin the search.

Google Scholar is an excellent place to start looking for peer-reviewed scientific articles.

Mendeley is a referencing software and is an excellent referencing tool (particularly useful if you are studying accountancy or psychology). Email Ainsley if you are interested in learning how to use this as may be useful for your other classes.

Figures

- Figures should be centered horizontally on the page.
- Your axis labels should be the same size and font throughout the document.
- You should be able to read the axis labels without zooming in on the document.
- A Figure should only appear at the top or bottom of a page, you should not place a Figure sandwiched between text.

Figures cont...

- The caption should be placed below the Figure and be in the form, Figure 1: or Figure 1.1: depending on your discipline.
- The caption should be descriptive enough such that someone could open your document randomly at that Figure and understand what this Figure represents. This may mean that your Figure caption is a few sentences long.

Tables

Formatting Tables is very similar to formatting Figures, the main difference is

- The caption should be placed above the Table and be in the form, Table 1: or Table 1.1: depending on your discipline.

How not to format an equation

The volume of a cylinder, V , can be defined using the following equation:

$$V = \pi r^2 h$$

where

- π is a constant and is often approximated to 3.14.
- r is the radius of the circle.
- h is the height of the cylinder.

How to format an equation

- An equation is part of a sentence and as a result it should have punctuation after it, either a full stop or a comma.
- All Equations should be numbered, the Equation should be centered and the Equation number should be right aligned.
- You should only include an Equation if you are going to refer to it in the text.

An Example of formatting an equation

The volume of a cylinder, V , can be defined by

$$V = \pi r^2 h, \tag{2}$$

where π is a constant and is often approximated to 3.14, r is the radius of the cylinder and h is the height of the cylinder.

Writing an equation in the text

In the previous section, we introduced the volume of a cylinder (shown in Equation (2)). In this Section we will discuss volumes of pyramids.