Guidance for MTH1004 Term 1 Coursework “Report 1”

This document contains background information and advice for the MTH1004 term 1 coursework.

Creating a pdf file

There are many different word processors and text editors that can produce pdf files. Below is a solution that uses PowerPoint that is part of the MS Office Suite that all students have access to. It can be run in the web browser, so doesn’t require installation of any software on your device, and should work for all students. (You do not have to follow these instructions to create your pdf.)

1. To open PowerPoint in your browser go to https://www.microsoft365.com/launch/powerpoint You might have to log in with your university username and password.
2. Click on the “Blank Presentation” button.
3. Use Design > Slide Size > Custom Slide Size to set the size to the required A4 format.
4. Use Insert > Text Box and Insert > Picture to add and organise your content on the slide.
5. Choose File > Save as > Download as PDF
6. Open the downloaded pdf file in your pdf viewer or in your browser to double check that it looks as desired.

Why pdf? The pdf file format is specifically designed to look exactly the same on every device and in every pdf viewer. This cannot be said.about e.g. the .ppt or .doc format. A poster in doc format might look good on your computer, but could look completely different when I open it on mine. Pdf ensures a uniform look on all devices.

Some design tips for scientific poster presentations

Design is subjective, but there are simple guidelines that help create a good looking data analysis poster.

Using only black and white can look boring, so do use a few different colors. But don’t overdo it. Go for elegant rather than flashy look. Use a common color theme. Avoid using an excessive number of different colors, font types, and font sizes.

Highlight the title in bold and a large font, and section headings in bold with a smaller font. Use at most 2 different font types, one for title and headings and one for text.

Leave some margins and white space for a clean look, but avoid excessively large areas with no content.

When resizing an image to fit onto the page, avoid distortions (squeezing and stretching) and make sure the figure is big enough so that all axis labels and annotations are legible.

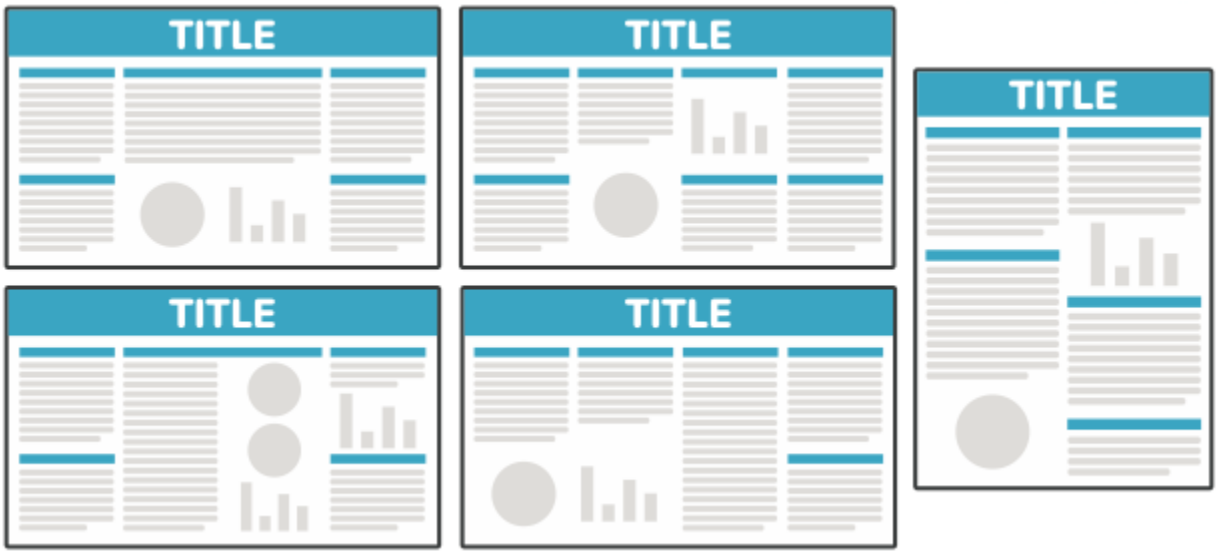
Try to align text boxes and images.

Add a caption under your figure and reference it in the text, e.g. “Figure 1 illustrates the relationship between X and Y.”

Write in full sentences and use concise and neutral language. Avoid informal and conversational language. Be somewhat careful in wording your conclusions (e.g. “these results suggest”, “the reason might be”), and avoid hyperbolic language (“without a shadow of a doubt”, “massively”, “extremely”, “significantly”).

For more guidance on academic writing, referencing, designing posters, and more, please have a look at the resources offered by the University of Exeter Study Zone.

We do not prescribe any specific style and layout for your poster, and look forward to seeing your creative ideas. However, in anticipation of questions along those lines, I would say that the following layouts are all acceptable:



R code

Save your script file with filename extension .R or .r and use a descriptive filename (e.g. coursework-1-code.R rather than script.R).

Try your best to make your R code readable for someone who is reviewing or trying to understand your code (such your assessor or your future self). Use indentation, white space, blank lines and comments to structure your code and improve readability. Consider the following specific guidelines:

- Use either = or < - for assigning variables, not a mixture of both.
- Use spaces around mathematical operators (+,=,- etc).
- Place a space after every comma.
- Try to stick to about 80 characters per code line, and use line breaks and indentation to break a long line up into several shorter ones (Rstudio helps you with indentation).
- Separate unrelated code chunks by blank lines (like paragraphs in a written text), and briefly describe each code chunk with a comment.

- Stick to functions you learned in the lectures as much as possible. If you need to use a function not covered in the module, please add a comment that indicates where you learned it.