Your Dissertation in Microsoft Word

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Project Dissertation

Logo, company name

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4th October 2022

Declaration

Statement 1

This work has not been previously accepted in substance for any degree and is not being con- currently submitted in candidature for any degree.

Signed Stu Dend (1234567)

Date Stu Dend (1234567)

Statement 2

This thesis is the result of my own investigations, except where otherwise stated. Other sources are acknowledged by citations giving explicit references. A bibliography is appended.

Signed Stu Dend (1234567)

Date Stu Dend (1234567)

Statement 3

The University’s ethical procedures have been followed and, where appropriate, ethical approval has been granted.

Signed Stu Dend (1234567)

Date Stu Dend (1234567)

Abstract

In your abstract, you should aim to summarize the core contributions of your work in the context of the problem domain. Start by outlining the domain and the problems posed within it. Discuss how the methods you focus on approach the relevant problems. You should end your abstract by concretely stating the tangible outputs and deliverables you have created in order to complete your work on this document, and whether those outputs represent an improvement or alternative approach to existing methods.

Your abstract should be a couple or so paragraphs long, and roughly approximate the order and flow you then use for structuring the main document. If a reader has read your abstract then they should already understand at a high level what it is you have created and delivered, and whether it is better than or comparable to existing methods. If your project is driven by a research hypothesis, then the reader should know what that is at a high level from this section. Reading on, little should surprise the reader.

Acknowledgements

This is an opportunity to acknowledge and thank those who have supported you throughout your studies. Friends and colleagues who you have studied alongside, your families, and your mentors within the department are the usual suspects.

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# Introduction

This document is intended both as a thesis template and as a short tutorial on using Microsoft Word to produce a professional-looking academic document. An alternative is that you could write your dissertation in LaTeX.

The introduction would normally be longer than this and describe the context of the project in some detail. This, however, is just a template showing some of the framework of a potential project dissertation. You have to find the structure that suits your project best. For completeness of the dissertation, you should compare it against the marking scheme so that all relevant sections of it are addressed.

## Motivation

Large documents can become cumbersome to work with and format consistently. This is especially true in Word as it seems few people know how to use the styling and reference features of the product. Inconsistent formatting gives the sense of incomplete or sloppy work. Sensibly chosen aesthetic cues are important to help imply structure and can greatly aid the reader in understanding your work. This Word template makes heavy use of styling which frees the author from manually formatting during content preparation, allowing for consistent styling to be applied automatically during document creation. In contrast, with the accompanying Google Docs theme, it is the responsibility of the author to manually adhere to the styling laid out in the template.

## Aims and objectives

The aim of this document is to present a tutorial on thesis creation and discuss topics such as literature surveying and proper citation.

The main objectives of this work are:

1. A Word thesis template. Modify this document as appropriate and fill it with your own material.
2. To have the document setup appropriately including styling and structuring. Use the building blocks within this template to style each part of your document. Aim to use the provided styles, and create your own if needed, to make your document well-structured and consistently styled throughout.
3. A review of how to find and cite external resources. We review techniques and resources for finding and properly citing resources from the prior academic literature and from online resources.

## Overview

The remainder of this section outlines the document structure and the key contributions of this work. Section 2 reviews techniques for finding and properly citing external resources from the academic literature and online. In Section 3 we show examples of how to create different types of content, such as internal references, figures, code listings, and tables. And lastly, in Section 3.6 we summarize the main contributions and key points to take away from this template.

# Finding and citing resources

Finding relevant material for a subject area where you are not yet an expert can be difficult. Your first attempt would be to do a Google search for the relevant topic. Inspect the first couple of pages of results you receive. It is likely that you will get some useful information just from doing this. Among the results, there may be a Wikipedia page that often has a decent list of references. Choose the most appropriate sources from the list as a starting point for a set of sources. You should also try a Google Scholar search for more authoritative sources. Usually, you will at this point have enough sources and no longer need to include the Wikipedia page or blog posts in your set of references. You may have to add further resources as you progress.

The university has subscriptions to a vast number of major academic journals spanning a wide range of subject areas. By accessing the internet from a university network connection (Eduroam or Ethernet), the paywalls of many journals will simply vanish without any need for login credentials.

## Organizing your citations in Word

Word has a built-in citation manager that is sufficient to use. In years gone by this was not the case and external tools such as EndNote [1] had to be relied upon. These days though, Word’s built-in citation manager functions pretty well and produced automatic bibliographies.

If you were using LaTeX then you would use BibTex Entries such as the one seen in Figure 1.

@ARTICLE{turing36,

author = {Turing, Alan M.},

title = {On computable numbers, with an application to the

``{E}ntscheidungsproblem''},

journal = {Proceedings of the London Mathematical Society},

year = {1936},

volume = {42},

pages = {230--265},

number = {2}

}

Figure : An example of a BibTeX entry for a journal paper. This happens to be the paper introducing the Turing machine.

The BibTeX code listing in Figure 1 shows the information expected for a citation to an academic journal. You can use such data as a starting point to populate Word’s citation entries.

Be disciplined when collecting resources. Collect the bibliographic information of resources as you find them. Recollecting the information when writing your dissertation is much harder, takes a lot of time, and is sometimes impossible.

### The references tab on the ribbon

The ribbon contains a tab named “references” (see Figure 2). You may have never used this tab, but it will become one of your new best friends in Word.

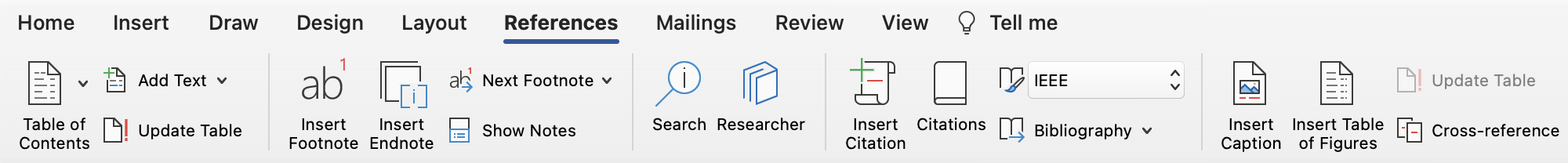


Figure : Screenshot of the ribbon's references tab.

There are a few important features/buttons on this tab when it comes to citations. These are:

* Citations – This opens a dialog to manage all your citation entries. Take a look at the entries in this document.
* Insert Citation – This allows adding a new citation entry (and also inserts it as a citation). You can also insert existing entries as citations by double-clicking them from the citation manager.
* The Bibliography Style dropdown – This allows selecting the style of bibliography for the document. IEEE is the closest one to what we typically use in Computer Science. Using IEEE is perfectly acceptable for your dissertation.

## Importance of referencing

First of all, do take referencing seriously. It has been claimed that the degree classification of a dissertation can normally be deduced after a quick read of the bibliography [2].[[1]](#footnote-1)

How are bibliographies evaluated? To understand this, we need to explain a little about academia. Within the academic community there is a large emphasis on peer-reviewed research. A peer-reviewed publication is vetted by other researchers and is therefore considered to be more authoritative. In fact, there is a whole scale that academics are schooled to recognise. The top end of the scale is, generally, articles in well-renowned academic journals. The bottom end is self-published material, such as web pages. Hence, many of your markers will complain if your bibliography is dominated by online sources (although the complaint has less to do with online and more to do with self-published).

In addition, much can be gleaned by the attention to detail in the rendering of the bibliography. Is all the pertinent information present? Is it formatted consistently?

Things that will improve your bibliography:

* Use the most authoritative sources you can find.
* Give all the bibliographic information needed.
* Format your entries consistently (leave Word do this automatically).
* Never[[2]](#footnote-2) cite an online version of a paper when there is a published version of the same paper.
* Online academic journals are still academic journals and should be cited as such, not as online material.

## Properly using and formatting citations within the text

The purpose of citations is twofold. It is partly to give credit to the originators and partly to support your assertions. If a reader questions your assertion, they can follow your citation to the original source and thereby verify it.

There are various citation styles in use. The important thing is not which citation style you use, but that you use the same one consistently. Here we use a style with numbers in brackets. IEEE is the closest one to what we typically use in Computer Science. Using IEEE is perfectly acceptable for your dissertation.

The citation is often placed at the end of the sentence. However, when we want to name the author, it sometimes can move to other places. Such as: In [3] Turing introduces a model of computation. Do read academic publications to acquaint yourself with various ways of formulating citations.

# Styling your dissertation

Just like you may not have known, or used, the references tab of the ribbon, there is another large feature set of Word: styles. These are found on the home tab.

Most people format Word documents by applying manual styles (by clicking the buttons seen in Figure 3). This should be more frowned upon than it is. Please do your utmost to stop using the manual formatting features. You should not be changing the font, font size, making text bold, italic, or unlined, etc manually. This is a recipe for an inconsistent document. It is virtually impossible to format large documents consistently this way. Styles on the other hand are great for this.

A picture containing diagram

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Figure : Manual formatting buttons in Word.



Figure : The Style area of Word.

Styles appear in the home tab of the ribbon (see Figure 4). Styles are usually applied to whole paragraphs, but can sometimes be applied to individual words. Each applies a certain set of formatting to the block of text. Styling helps ensure your document remains consistent. They are also used for structuring.

Styles apply many aspects of formatting such as font, font size, italic, bold, spacing, bullets, numbering, borders, colours, …, the list goes on. The styles in this document have already been modified for use in a dissertation.

The following styles are some of the paragraph styles that you should make use of:

* Heading 1 – A top-level heading. Heading styles also populate the table of contents.
* Heading 2 – A second-level heading.
* Heading 3 – A third-level heading. It would be rare to use headings lower than this.
* Code – A style for presenting blocks of code
* Normal – The style that is used for normal paragraphs. This is also the base style that most other styles inherit from.
* Quote – A style used for emphasising quoted text. Don’t forget the quotation marks and citations though.

There are also styles used for individual words, some of these are:

* Verb – verbatim text. This is basically mono-spaced text.
* Emphasis – used to style the text for emphasis. This is what you should use over manually applying italic.
* Strong – used to style the text for an even stronger emphasis. This is what you should use over manually applying bold.
* Verb – A style for inline code or mono-spaced font. Verb is short for verbatim.

There are many more styles and you can even create your own. By modifying a style, all text formatted with it will change in the document. Styling brings to Word some of the same benefits as constants bring when programming.

Here are some extra hints:

* Do not insert line breaks for spacing. Adjust the styles to add space after the paragraphs. This has already been done.
* Use the “Show/hide formatting marks” button. This is the end button on the middle row of Figure 2. This will help show you where you have entered a rogue line break.
* The style pane also can highlight where you have been naughty and used manual formatting.
* There is some place for manual formatting. However, once you are doing the same manual formatting two or three times, then consider making a new style and using that instead.

## Referencing items within a document

In Section 2.1 we saw examples of how to typeset citations for resources external to the document. However, often we would like to refer to an item or a location elsewhere in the document. To do this we make use of the heading styles and cross-references. Word can automatically write the cross reference and ensure it stays up to date. For example, if you were to add a new heading above the one you have cross-referenced, Word can (semi-)automatically adjust the numbering for you. Use the Cross-reference button shown in the lower-right of Figure 2 to insert cross references. You usually wish to only include the label and number (and not the whole caption).

When referring to an item or location within the document we are naming it. Therefore, it should be capitalised. Thus, we refer to Section2, Figure 1, and so on.

## Mathematics

Typesetting mathematics is one of the things that LaTeX does best. However, Word can do this fairly well too, but we do note that it is fiddly. We will not provide a tutorial here but rather just give some examples of the most commonly used features. All of the below are examples of equations. Use the Equation button in the Insert tab on the ribbon to add an equation.

### Inline formulas

Small equations like and can be written directly within the text.

### Displayed formulas

For larger formulas it is best to break the main text and display the formula on its own line. The length of a vector

Is defined to be

.

The Fibonacci numbers are defined inductively by

Equation : Definition of the Fibonacci Numbers.

Using a numbered equation as above gives us the ability to refer to it later in the text as Equation 1.

### Multi-line formulas

Sometimes we need several lines to express something. For example, we can display the following bogus proof showing that

Note that it is possible to align the equal signs up in the column. This is done not with the insertion of manual spaces, but by telling Word the exact character on the line that controls the alignment.

## Figures

Figures are useful to quickly demonstrate things that are difficult to explain in text. Note that all figures should have a caption that explains their purpose and they should also be referenced in the main text.

Producing good-quality figures to support the text is often time-consuming but can greatly improve the document. Figure 5 shows a simple graph drawing produced using Word’s built-in drawing tools. Two circles were created, an arrow was added between them, and then they were grouped together. Finally, they were centred and a caption was added. Alternatively, you can use external drawing programs to produce images which can subsequently be included.

Figure : A simple graph drawing showing how to get from A to B.

To insert a caption, use the Insert Caption button shown in Figure 2. If you wish to change the style of the captions then do not apply manual formatting but change the caption style instead.

### Avoid directly importing other peoples images

It is best if you produce figures/images that are directly relevant to your project rather than taking images from other people. If you do take images from other sources these need to be cited in the caption with an entry in the bibliography.

## Code listings

Code listings can be useful to describe key points in an implementation. In this document, we have used the code style that we manually created. Code listings generally use a monospace font so characters line up vertically. Simply apply the code style and then insert a caption.

The main method. \*/

int main(int argc, char \*argv[]) {

printf("Hello world.\n");

return 0;

}

Listings : An extract of the implementation of an important algorithm from our work.

It is also possible to use code fragments inline using the verb style. For example, int argc.

## Tables

A table is a very good way to present a modest amount of data. It should be quite clear from Table 1 that the optimisation really improved the running times, and also that the improvements were better for Algorithm A than for Algorithm B. As with figures, tables should have captions and be referenced in the text. We have made use of manually modifying the borders of the table and merging cells for more pleasing results.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Non-optimised | | Optimised | |
|  | Steps | Time (ms) | Steps | Time (ms) |
| Algorithm A | 4711 | 13.9 | 2424 | 6.9 |
| Algorithm B | 2800 | 16.2 | 2022 | 11.2 |

Table :Reporting on some fictitious optimisation results.

## Updating references

Unfortunately, Word does not update references automatically. You must instruct Word to do this. You can do this by clicking on each and every item (table of contents, bibliography, cross-references, etc) and choosing to update the field. But there is an easier way:

1. Select the whole document using Control-A on Windows or Command-A on MacOS.
2. Right-clicking on some area of the highlight.
3. Select “Update field”, then choose “Update entire table”.

Make sure you update all references as a final step before you submit your document.

# Conclusions

Finally, it is time to write up a summary of the things accomplished. In our case, this is a template that may be used as a basis for your own dissertation.

You would normally also discuss future work. This might be improvements to the project that has come to light while reflecting on the outcomes, or it could be open questions that so far remain unanswered.

# Bibliography

|  |  |
| --- | --- |
| [1] | Clarivate, “EndNote,” 2022. [Online]. Available: https://endnote.com. [Accessed 16 10 2022]. |
| [2] | Unnamed Lecturer, *Private communication,* 2022. |
| [3] | A. M. Turing, “On computable numbers, with an application to the Entscheidungsproblem,” *Proceedings of the London Mathematical Society,* vol. 42, no. 2, pp. 230--265, 1936. |

1. Implementation of main algorithm

#include <stdio.h>

/\* The main method. \*/

int main(int argc, char \*argv[]) {

printf("Hello world.\n");

return 0;

}

Listings : A full implementation of an important algorithm from our work.

1. Any claim of this kind should have a citation. In this case we had to protect our source, which is why the bibliographic information is very terse. [↑](#footnote-ref-1)
2. Never ever ever. [↑](#footnote-ref-2)