

Your Thesis Title



UNIVERSITY OF
LINCOLN

Benjamin Williams

School of Computer Science

College of Science

University of Lincoln

Submitted in partial satisfaction of the requirements for the
Degree of Doctor of Philosophy
in Computer Science

Supervisor Dr. Mantis Toboggan

April, 2021

A blank page

Here is an optional page environment you could use for things like:

- Your own custom preamble chapters (use `\chapterTitle` for titles!). If you want to add these to your table of contents, use the `\addChapterToTOC{text}` command and enable manual TOC entries in `preamble/thesis-details.tex` with `\enableManualTOCEntries`.
- “*This work is dedicated to...*”
- A copyright notice
- A declaration of authorship
- Additional notes
- Quotes
- List of publications
- An actual blank page

You can pass an optional parameter to this environment with the value `c` to centre this text vertically on the page.

Acknowledgements

Firstly, I want to thank somebody, and somebody else.¹ Here is another thing.

¹Here is a footnote

Abstract

Here is the abstract for this thesis.

List of Tables

3.1 Here is a table. The caption goes above like this. 9

List of Figures

3.1 A picture of the Brayford from Google Images. 9

Table of Contents

| | | |
|----------|---|-----------|
| 1 | Introduction | 1 |
| 1.1 | Some notes | 1 |
| 1.2 | Definable variables | 2 |
| 1.3 | Making the title page | 3 |
| 1.4 | Testing some math | 3 |
| 1.5 | Undergraduate theses | 4 |
| 1.6 | Referencing | 4 |
| 1.6.1 | Ludography | 5 |
| 1.7 | Manual table of contents entries | 5 |
| 1.8 | A note about <code>arabtex</code> | 6 |
| 1.9 | Omitting tables in preamble | 6 |
| 2 | Related Work | 7 |
| 3 | Method | 9 |
| 4 | Conclusions | 10 |

Chapter 1

Introduction

1.1 Some notes

It is worth noting that this document is an **unofficial** thesis template for the University of Lincoln School of Computer Science. It is also worth noting that this template is only suitable for the preparation of postgraduate research theses, and does not conform to the standards for undergraduate dissertations. This isn't endorsed by the institution, or the school – a decent template was needed for my thesis, so I made this. Then, other people liked it and decided to use it. Along the way, I've added in small features which people have suggested. If you have any suggestions or issues, please contact me at bwilliams@lincoln.ac.uk! The following subsection in this document demonstrates some capabilities of the template (such as setting your thesis title, and so forth). I have not covered how to use L^AT_EX, as this assumes a working knowledge of the language.

If you are from another institution, then I want to thank you for your interest in my template! I've tried to make the template as lightweight as possible so you can modify it to your needs. You can easily swap out the logo (by changing `logo.pdf` or using `\thesisLogoPath`) and customise the title page contents using the commands listed on the next page. The template is also lightweight enough to enable you to change the typeface of the entire document. Again, if you have any questions (even if you're not from Lincoln) please drop me an email as I love hearing your stories!

1.2 Definable variables

The `lincolncsthesis` template has a number of definable variables which can be redefined to change the format of the thesis. These are listed below (on the next page).

| Command | Description | Example |
|--------------------------------------|--|---|
| <code>\thesisLogoPath</code> | Sets the path to the logo for the title. | <code>\thesisLogoPath{img/your-logo-here.jpg}</code> |
| <code>\thesisSubmissionDate</code> | Manually sets the submission date of the thesis, for the title page. | <code>\thesisSubmissionDate{July, 2019}</code> |
| <code>\thesisDegree</code> | Sets the name of the degree for this thesis. | <code>\thesisDegree{Doctor of Philosophy}</code> |
| <code>\thesisProgramme</code> | Sets the name of your degree programme/subject. | <code>\thesisProgramme{Biology}</code> |
| <code>\thesisSupervisor</code> | Sets the name of your supervisor (optional). | <code>\thesisSupervisor{Dr. Mantis Toboggan}</code> |
| <code>\thesisSecondSupervisor</code> | Sets the name of your second supervisor (optional). | <code>\thesisSecondSupervisor{Dr. Mantis Toboggan}</code> |
| <code>\thesisThirdSupervisor</code> | Sets the name of your third supervisor (optional). | <code>\thesisThirdSupervisor{Dr. Mantis Toboggan}</code> |
| <code>\thesisSchool</code> | Sets the name of your school. | <code>\thesisSchool{School of Chemistry}</code> |

| | | |
|--------------------------------|--------------------------------------|---|
| <code>\thesisCollege</code> | Sets the name of your college. | <code>\thesisCollege{College of Science}</code> |
| <code>\thesisUniversity</code> | Sets the name of your university. | <code>\thesisUniversity{University of Lincoln}</code> |

In addition, `\thesisSubmissionText{text}` overrides the submission statement `text`, so you can type whatever you'd like onto the front page. This is optional, though. For example, if you wish to erase it entirely, you can use `\thesisSubmissionText{}`. Example usage can be found in `preamble/thesis-details.tex`.

1.3 Making the title page

To make the title, you just need to write `\maketitle` at the beginning of your document, like any other L^AT_EX document. You can alternatively pass the optional argument `[logo-first]` to render the title page with the logo on top, like some thesis styles.

To do this, just write `\maketitle[logo-first]` in place of `\maketitle`.

1.4 Testing some math

Here are two equations:

$$a = b + 1 \tag{1.1}$$

$$\frac{\hbar^2}{2m} \nabla^2 \Psi + V(\mathbf{r})\Psi = -i\hbar \frac{\partial \Psi}{\partial t} \tag{1.2}$$

And here is some text with some nice inline math, (x, y) wow γ so cool ρ .

1.5 Undergraduate theses

Currently, this template is set up for use with postgraduate research theses, and does **not** conform to the standard of undergraduate dissertations. However, the template can be modified fairly easily to conform to these standards. But I am not responsible for ensuring your thesis matches your required submission standard. The purpose of this template is to instead provide a good guide for formatting your thesis.

1.6 Referencing

If you have included `[harvard]` in the document class command, then you will be able to cite things inline with parentheses. You can do this by using `\citep{citekey}`. It will print out something like this (Aad et al., 2012). Or alternatively, you can use `\cite{citekey}` to cite things like this Chatrchyan et al., 2012. If you wish to use numeric style citing, just remove the `[harvard]` option from the `\documentclass` command.

If you are writing an postgraduate thesis (at Lincoln) it is worth noting that the standard for referencing is Harvard, so you will not need to change this option. However, please double and triple check this to make sure you are using the correct referencing style. Also, ask your supervisor and see which they prefer. This template uses Bib \LaTeX for referencing, with a Biber backend. This is primarily due to the extensive features Bib \LaTeX provides, along with the option of glossaries. If you want to customise the referencing style, you can either modify the template slightly to use different options, or use `\usepackage` again to reimport it. There's probably some commands to change its options after its been imported too.

If you wish to use numeric style citations instead, please remove the `[harvard]` option from your `\documentclass` command.

1.6.1 Ludography

This thesis template also contains an optional ludography. To use this, just put references into your bib file as usual with the game's details. Then, make sure `keywords` is set to `{game}`. This is what is used to determine which references are games, and which are actual papers. For a more elaborate example, see `bib/ludography.bib`.

Also, make sure that the `title` key is actually the author of the game, and the `author` is the title of the game. The reason this is swapped around is because Bib_{La}T_EX likes to print references out with the author first.

Then, just add `\printLudography` with an optional title argument to print out all citations like `\printLudography` or `\printLudography[Games]`.

You can also use the `ludography` environment if you wish to print out some text before the list of games is printed. An example of this can be seen in `main.tex`.

To cite games, you can `\cite` it like any other reference. However, if you want it to display the title instead of the standard referencing style, you can use `\citeGame` instead.

Here is an example of a cited game with a normal reference style: Space Invaders, 1978. Ugh, pretty ugly. Instead, here the two are cited in the next sentence as games with `\citeGame`. Both *Space Invaders* and *Breakout* were games made by Atari. Much better!

1.7 Manual table of contents entries

As of version 1.0.5, there are commands to manually add chapters and sections to the table of contents (TOC). This is useful for a bunch of reasons, for example, in very large theses you can section your chapters into particular subtopics.

Another reason is to list chapter-like or section-like portions of the document to the TOC. For example, the abstract, acknowledgements, and other sections before the thesis body are not listed in the TOC by default. To enable this functionality, and

start adding manual entries to your TOC, you can use the `\enableManualTOCEntries` command in the `preamble/thesis-details.tex` file.

You can then add chapter headings with `\addChapterToTOC{Title goes here}` throughout your document. You can also add sections with `\addSectionToTOC{Section title goes here}` too. Furthermore, an additional command can be used to disable implicitly defined manual TOC entries in the thesis template itself (the list of figures, list of tables and TOC): `\disableTableTOCEntries`.

1.8 A note about arabtex

Currently, this template doesn't seem to work properly with the `arabtex` package. Support for this package and its usage will eventually be added, but isn't one of my main priorities right now. A big thanks over to Hala and the folks over at Effat University for bringing this to my attention!

1.9 Omitting tables in preamble

Sometimes, you may want to omit either the List/Table of Figures, List/Table of Tables, or the Table of Contents. To do this, you can use the `\turnOffTOF` command to omit the List of Figures, `\turnOffTOT` to omit the List of Tables, and `\turnOffTOC` to omit the Table of Contents. A better example can be found in `preamble/thesis-details.tex`.

Chapter 2

Related Work

...

...

Chapter 3

Method

Here is a sentence, and you can see a nice picture in Figure 3.1.



Figure 3.1: A picture of the Brayford from Google Images.

Also, a table can be found in Table 3.1. You should use a \LaTeX table generator like <https://www.tablesgenerator.com/> if you want to make your life easier.

Table 3.1: Here is a table. The caption goes above like this.

| First name | Last name | Age |
|------------|------------|-----|
| Bob | Bobbington | 24 |
| Benth | Wavies | 49 |
| Joe | Bloggs | 37 |
| Billy | Bob | 10 |

Chapter 4

Conclusions

...

References

Aad, Georges et al. (2012). ‘Observation of a new particle in the search for the Standard Model Higgs boson with the ATLAS detector at the LHC’. In: *Physics Letters B* 716.1, pp. 1–29 (cit. on p. 4).

Chatrchyan, Serguei et al. (2012). ‘Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC’. In: *Physics Letters B* 716.1, pp. 30–61 (cit. on p. 4).

Ludography

Breakout (1976). *Atari* (cit. on p. 5).

Space Invaders (1978). *Atari* (cit. on p. 5).