The bhamthesis class

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Disclaimer

This document is neither produced nor approved by the University of Birmingham. Always make sure your thesis conform to the requirements after printing and before submitting.

Contents

1 Introduction

This documentation corresponds to v3.3 of bhamthesis, dated 2009/12/26.

The bhamthesis class is meant to help TEX-ers more easily conform to the thesis requirements set by the University of Birmingham, UK. I only did the minimum

work to program in these thesis requirements. Please e-mail me any comments or any bugs you find. I did not try to make the documents produced beautiful. If you think some parts of the output look awful, then please first try your document on the standard LaTeX report class — it may just be a 'feature' of the report class on which bhamthesis builds.

2 Major changes in the current version

The thesis requirements [1] have 'evolved' slightly since I wrote the previous versions (and it is time to write a thesis again). So I updated some features of the class. The main changes include the following.

- The class is 'repackaged' using doc, DOCSTRIP, etc. Hopefully, this will help future generations modify this more easily when the thesis requirements 'evolve' again (and if they still want parts of my code).
- The ugly bhamthesisfill is placed by the (I believe) more tidy bhamthesis.
- There seems to be more choice in the bibliography style now [2]. So I do not provide a BibTeX style in this version. (I prefer `plain.bst` after all.) However, remember to include the date of access if your reference is from the Internet.
- In view of the new college structure of the university, we need to say in which college our school is now. An appropriate command is added to put it on the title page.
- This version has a couple of new options to change the fonts of the text.
- (This is not really a change.) It seems that the requirements allow theses to be printed on both sides of the paper now. The `twoside` and `openright` options have now been considered, although they have not been thoroughly tested yet.
- In previous versions of bhamthesis, the whole bibliography is single-spaced by default. Now, only items *within* the bibliography are single-spaced, not between the items.
- In the current version, I made the list of references appear in the table of contents automatically.
- Some new options and commands are added to change how the appendix looks like in the table of contents.

3 Packages required

bhamthesis needs the setspace package to making double line spacing, and the perpage package to make footnote numbering reset on each page. setspace and perpage can be downloaded from

`http://www.ctan.org/pub/tex-archive/macros/latex/contrib/setspace/setspace.sty`

and

`http://tug.ctan.org/tex-archive/macros/latex/contrib/bigfoot/`

respectively.

If the `reqfont` option is called, then bhamthesis will additionally need the fontenc package and the font packages mathptmx, uarial, and courier. Otherwise, these packages are not needed. fontenc is included in most LaTeX distributions, but it can also be downloaded from

`http://www.ctan.org/tex-archive/macros/latex/unpacked/fontenc.sty`.

uarial, which is also known as urw-arial, can be downloaded from

`http://www.ctan.org/tex-archive/fonts/urw/arial/`.

mathptmx and courier are included in the usual LaTeX macro package called psnfss, which can be downloaded from

`http://www.ctan.org/tex-archive/macros/latex/required/psnfss/`.

If the `fancyfonts` option is called, then bhamthesis will additionally need the fontenc package and the font packages mathptmx, tgtermes, tgheros and tgcursor. As mentioned above, the fontenc package and the mathptmx package can be found at

`http://www.ctan.org/tex-archive/macros/latex/unpacked/fontenc.sty`

and at

`http://www.ctan.org/tex-archive/macros/latex/required/psnfss/`

respectively. The latest version of tgtermes, tgheros and tgcursor can respectively be downloaded from

`http://www.gust.org.pl/projects/e-foundry/tex-gyre/termes`,
`http://www.gust.org.pl/projects/e-foundry/tex-gyre/heros`, and
`http://www.gust.org.pl/projects/e-foundry/tex-gyre/cursor`.

It would be safe to have a version dated no earlier than 2009/09/10.

All these packages are free of charge, and probably (most of) these are already in your LaTeX installation.

4 Files in bhamthesis

The following files are included in the distribution.

`bhamthesis.pdf` — the user manual.

`bhamthesis.dtx` — the documented code.

`bhamthesis.ins` — the installer file.

`bhamthesis.cls` — the main class file.

`bhamthesis.sty` — the complementary package.

`thesiseg.tex` — an example using bhamthesis.

`bibeg.bib` — the BibTeX 'database' accompanying the example.

`README` — a text-only description of bhamthesis.

5 Usage

5.1 Extracting the package

The `cls` and `sty` files are already included in the distribution. So *it is not necessary to extract the files again*. However, if you really want to try it, then (make sure you have LaTeX installed on your computer, and) run

```
latex bhamthesis.ins.
```

This should give `bhamthesis.cls` and `bhamthesis.sty`.

Move the `cls` and `sty` files to a place where you LaTeX can find, e.g., in the same directory as your `tex` files.

5.2 Producing the documentation

Again, a `pdf` version of the (user) documentation is already included in the distribution (i.e., the one you are reading now). The following describes a way to produce the (user and programmer) documentation yourself.

To produce a `dvi` version of the user documentation, run the following commands in the order given.

```
latex bhamthesis.dtx
makeindex -s gglo.ist -o bhamthesis.gls bhamthesis.glo
makeindex -s gind.ist -o bhamthesis.ind bhamthesis.idx
latex bhamthesis.dtx
```

To produce a `dvi` version of the programmer documentation, remove the line

```
% \OnlyDescription
```

in `bhamthesis.dtx` before running the above commands. To produce the documentation in `pdf` format, replace `latex` in the above sequence by `pdflatex`.

5.3 Loading the class

At the beginning of your `tex` file, in the place where you usually put your `\documentclass...`, write

`\documentclass[`⟨*class options*⟩`]{bhamthesis}`

instead. The ⟨*class options*⟩ can include any combinations of the options available in the standard LaTeX report class. The other ⟨*class options*⟩ made available by bhamthesis are the following.

`reqfonts` The typefaces Times Roman, Arial, and Courier are recommended by the thesis requirements. This option makes the document use (something similar to) these fonts. You need additional packages for using this option: fontenc, mathptmx, uarial, and courier. As usual, the math fonts will not look good under this option.

`alldoublespace` According to the thesis requirements, not every part of a thesis needs to be double-spaced. This option makes everything double-spaced, including the quotations, captions, and the bibliography, *but excluding the footnotes*, which was made to be single-spaced by setspace, not by me.

`nodoublespace` This makes everything single-spaced.

`savespace` This is essentially the combination of `10pt` and `nodoublespace`.

`toclineappendix` This makes the word 'Appendix' to appear in the table of contents on a new line.

`prefixappendix` This adds the prefix 'Appendix' to appendix chapters in the table of contents.

`fancyfonts` This is for people who like something more adventurous. These will make use of TeX-Gyre fonts Termes, Heros, and Cursor. These fonts are still not very stable yet. So this option is still experimental. You need fontenc, mathptmx, tgtermes, tgheros and tgcursor. As with `reqfonts`, the math fonts will still not look good under this option. Hopefully the developers of these fonts will get round to fixing this soon. The main difference of this option from `reqfonts` is that one can do more combinations now, e.g., a typewriter smallcaps font.

I don't know what will happen if you load both `reqfonts` and `fancyfonts`. I guess it depends on which order you specify it. Avoid it. If both `toclineappendix` and `prefixappendix` are loaded (and the flags are not changed throughout), then `prefixappendix` is ignored.

All commands available in the standard LaTeX report class are available in bhamthesis.

5.4 The title page

\submissionstatement
\degree
\school
\college
\university

Quite a lot of information is shown on the title page, and bhamthesis needs to know these pieces of information. In addition to the usual `\title`, `\author` and `\date`, `\degree`, `\school`, `\college` and `\university` allows you to put in respectively the degree you are studying for, your school, your college, and your university. The 'submission statement' is a piece of text that appears below your name on the title page, and it can be changed by `\submissionstatement`. All these have convenient default values.

As usual, `\maketitle` is used to make title pages.

5.5 Parts of the thesis

\frontmatter
\mainmatter
\backmatter

bhamthesis divides theses into three parts: `\frontmatter`, `\mainmatter`, and `\backmatter`. (Sorry for misusing these words.) `\frontmatter` should be put at the very beginning of the document, before `\maketitle`. `\mainmatter` should be put after the `\tableofcontents`, the `\listoffigures`, and the `\listoftables`, and before the first `\chapter`. `\backmatter` should be put immediately before the `\bibliographystyle`, and after the appendix, if any. In summary, theses should be arranged in the following order.

Frontmatter

1. Title page
2. Abstract
3. Dedication (if any)
4. Acknowledgements (if any)
5. Table of contents
6. List of figures (if any)
7. List of tables (if any)
8. List of definitions and abbreviations (if any)

Mainmatter

9. Main text
10. Appendices (if any)

Backmatter

11. List of references

dedication
acknowledgements

You can use the environments `dedication` and `acknowledgements` for your dedication page and your acknowledgements.

\toclineappendix
\prefixappendix
\prefixappendixoff

One can control how the appendix appear in the table of contents. Having `\toclineappendix` and `\prefixappendix` are the same as including the `toclineappendix` option and the `toclineappendix` option respectively. `\prefixappendixoff` turns off the prefix-ing triggered by `\prefixappendix`. You can put these commands in the preamble or within your document. If you have both `\toclineappendix` and `\prefixappendix` when you reach the appendix, then the chapter titles will *not* be prefix-ed in the table of contents. It is recommended that you number your chapters in the appendix unless there is only one appendix chapter.

All other parts are as in the LaTeX report class.

5.6 Double-spaced quotations

display
displaypar

Sometimes, one may prefer double-spaced quotations (or he/she may just want to display something). This can be done using `display` and `displaypar` in place of `quote` and `quotation` respectively.

5.7 Page-size figures and tables

figurepage
tablepage

The thesis requirements want page-size figures and tables to be treated a little differently. `figurepage` and `tablepage` are designed for this. Put your page-size figures and tables into these environments, use the `\caption` command as you would in `figure`s and `table`s. The binding margin will be slightly increased, the figure/table will always be numbered, and the numbering will always appear on the top.

5.8 The supplementary package

This new version of bhamthesis comes with a supplementary package, also called bhamthesis. The bhamthesis class loads the bhamthesis package automatically, so you don't need to load this package separately. However, there would be no problem even if you have

```
\documentclass{bhamthesis}
...
\usepackage{bhamthesis}
...
```

for example. If for some reason you need to switch back to the usual LaTeX classes temporarily, then you can put

```
\usepackage{bhamthesis}
```

in the preamble of your document so that all commands provided by the bhamthesis are still (properly) defined.

5.9 User parameters

More advanced users can choose to change the default appearance of bhamthesis documents by altering the following parameters (or otherwise).

`\addsswidth` This is the width of the bottom-right box on the title page. If not specified, then it is calculated so that it is the smallest possible.

`\acknowname` This is the caption of the `acknowledgements` page.

`\dedwidth` This stores the width of the dedication text in `dedication`.

`\dedabove`,`\dedbelow` They are respectively the proportion of white space above and below the dedication text.

`\namepart{`⟨*number*⟩`}` `\namepart{`⟨*number*⟩`}` returns the name of part ⟨*number*⟩ in the document as predefined in bhamthesis.

References

[1] University of Birmingham. Presenting your thesis: Notes on the arrangements of theses and their preparation for binding and deposit. Downloaded from `http://www.library.bham.ac.uk/searching/guides/sk05presentingthesis.pdf` on 18 Decmeber, 2009. Document number SK05-JR – 02/06/2009.

[2] University of Birmingham. i-cite: Guide to Citing References. Web address `http://www.i-cite.bham.ac.uk`.

[3] Donald E. Knuth. *The TEXbook*. Stanford University, 1986. Downloaded from `http://www.ctan.org/tex-archive/systems/knuth/tex/` on 8 April, 2007.

[4] Leslie Lamport. *LATEX: A Document Preparation System — User's Guide and Reference Manual*, second edition. Addison-Wesley Publishing Company, Inc.: Reading, Massachusetts, 1994. Illustrated by Duane Bibby. Updated for LaTeX 2_ε.

[5] Frank Mittelbach, Michel Gossens, Johannes Braams, David Carlisle, and Chris Rowley. *The LATEX Companion*, second edition. Tools and Techniques for Computer Typesetting. Addison-Wesley: Boston, 2004 With contributions by Christine Detig and Joachim Schrod.

[6] Richard Kaye. The mathsexm class: LaTeX class to set Mathematics Exams at The University of Birmingham. Version dated 12 February, 2007. Downloaded from `http://mat140.bham.ac.uk/~richard/programming/tex/exams/` on 3 January, 2008.

[7] Stephen Harker. The adfathesis class: ADFA PhD thesis style. Version 2.50, dated 16 April, 2004. Downloaded from `http://tug.ctan.org/tex-archive/macros/latex/contrib/adfathesis/` on 25 December, 2007.

[8] UK List of TeX FAQs on the Web. Optional arguments like `\section`. Web address `http://www.tex.ac.uk/cgi-bin/texfaq2html?label=oarglikesect`. Accessed on 24 December, 2007. FAQ version 3.17-1, last modified on 11 November, 2007.

Change History

v3.2

General: First DOCSTRIP version . . 1

v3.3

General: Description for appendix commands added. 7

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Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.