

autthesis class

Dr Alan T Litchfield
autthesis.nz@gmail.com

March 2, 2020

1 Introduction

This LaTeX thesis template has been designed for the use of postgraduate students at AUT. The thesis conforms to the thesis design style required by AUT. This template is set up to work out of the box. The template also produces two types of output: the research output (thesis, dissertation, etc.) and a chapter proof. This article is provided to illustrate and describe some of the specific features the class provides. Note that this makes no attempt to deal with multi-volume thesis and if you do one that long you deserve everything you get.

2 Getting started

To get started, you should see the following files and folders in your `autthesis` folder. Those that are essential are emphasised below:

<code>AUTThesis.aux</code>	<code>AUTThesis.tex</code>
<code>AUTThesis.bbl</code>	<code>AUTThesis.toc</code>
<code>AUTThesis.blg</code>	<code>autthesis.cls</code>
<code>AUTThesis.lof</code>	<code>autthesisDocumentation.pdf</code>
<code>AUTThesis.log</code>	<code>bibFile.bib</code>
<code>AUTThesis.lot</code>	<code>images/</code>
<code>AUTThesis.out</code>	<code>includes/</code>
<code>AUTThesis.pdf</code>	<code>programmes.def</code>
<code>signature.pdf</code>	<code>thesisPackages.def</code>

`autthesis.cls` is the class file that contains the specific requirements for the thesis. It is based on `report.cls`.

`AUTThesis.tex` is the main header file for the thesis template and is the file you run when you generate the whole thesis. You can also use this file to produce individual chapter proofs.

`bibFile.bib` is the bibliography file and is formatted in bibtex. The template uses bibtex rather than biblatex mainly because I have not found as good an example of apacite in the biblatex formats. There's nothing stopping you from using biblatex of course, especially if you have complex double-byte characters. bibtex supports ascii.

`thesisPackages.def` is where you state what packages you are using in your thesis. That is, all the packages are in the same place.

`programmes.def` contains a list of all the postgraduate programmes delivered at AUT. Use this list to find the programme code so that the correct programme title is listed in the thesis. The programme code is entered into the document class line, for example:

```
\documentclass[12pt,AK1318,techreport,doublespace]{autthesis}
```

`/images` and `/includes` are directories. The former is where you put all your pictures, preferably in pdf format and the latter is where you have all your chapters. When you are writing your thesis, you write it into the chapter files and you compile it using `AUTThesis.tex`. You will see that there are already files in `/includes` as follows:

<code>Analysis.tex</code>	<code>Conclusion.tex</code>	<code>confidentialMaterial.tex</code>	<code>Discussion.tex</code>
<code>FirstAppendix.tex</code>	<code>glossary.tex</code>	<code>intro.tex</code>	<code>LitReview.tex</code>
<code>Method.tex</code>	<code>SecondAppendix.tex</code>		

To set up your thesis

Step 1 Open `AUTThesis.tex` and locate the line that reads

```
\documentclass[12pt,AK1318,techreport,doublespace]{autthesis}
```

Then type in the programme code for your qualification and the type of output. The programme codes are listed at the end of this article, on page 6.

The types of report are:

<code>thesis</code>	thesis
<code>dissertation</code>	dissertation
<code>exegeesis</code>	exegeesis
<code>techreport</code>	technical report

Line spacing options are:

```
singlespace
doublespace
onehalfspacing
```

Step 2 Scroll down to find the variables that personalise your thesis:

```
\author{Fred Spoons Candidate}
\title{The tech report title}
\submitdate{June 2016}
\dept{School of Engineering, Computer and Mathematical Sciences}
\faculty{Faculty of Design and Creative Technologies}
\primarysupervisor{Prof. P Supervisor}
\secondarysupervisor{Prof. S Supervisor}
```

Enter your specific details.

The parts below this can be left until later.

```
\acknowtext{...}
\abstracttext{...}
\pubstext{...}
\deditext{...}
\iptext{...}
\conftext{...}
```

Leave the thesis options for now. They are set up for a standard AUT thesis, but you may change them later if you need to. To change them, you can change the value to either `true` or `false`.

```
\abstractpagetrue{}
\acknowpagetrue{}
\dedipagefalse{}
\declpagetrue{}
\figurespagetrue{}
\tablespagetrue{}
\pubspagetrue{}
\ippagetrue{}
\confpagetrue{}
```

Step 3 Now you can start writing your thesis, so open any of the files in `includes`, say `intro.tex`. You will note that it already contains text. Just select this and delete it and type your own work into the file. When you have finished this, you can save the file.

Generating the thesis

To run the thesis you have the option of generating the whole thesis or a chapter proof. The thesis header file already lists all the chapter files:

```

\include{includes/intro}
\include{includes/LitReview}
\include{includes/Method}
\include{includes/Analysis}
\include{includes/Discussion}
\include{includes/Conclusion}

```

If you have multiple appendices, then these need to be added to the header below the command

```
\AUTthesisAppendix{none}
```

You will name the appendix files something appropriate or meaningful. I have put two there `FirstAppendix.tex` and `SecondAppendix.tex`, plus `glossary.tex` and `confidentialMaterial.tex`.

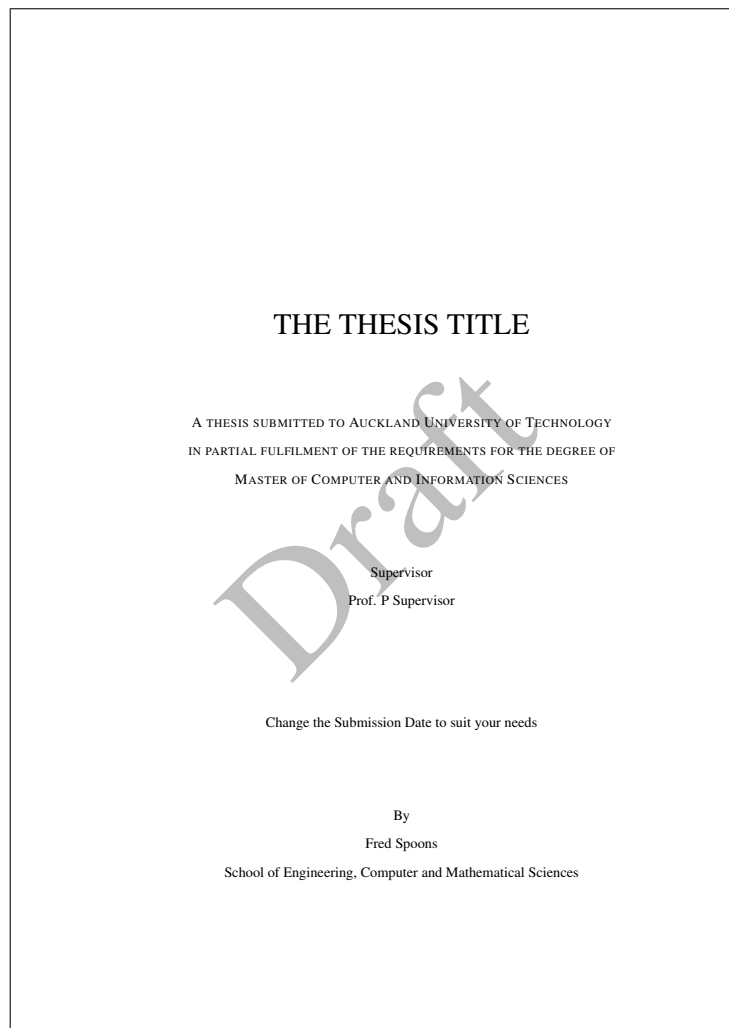
To generate the thesis Run the header file using `pdflatex` and `biber`. You will probably need to run the header at least three times. Some editors will run all the necessary cycles automatically but if not, the first run cycle should be `pdflatex` \Rightarrow `bibtex` \Rightarrow `pdflatex` \Rightarrow `pdflatex`. Subsequent updates should not require running `bibtex` unless you have changed or updated the `*.bib` file.

Draft watermark

When you generate a draft copy of the thesis for revision, it may be desirable to include a watermark. To do this, add the option `draftversion` as below:

```
\documentclass[draftversion,12pt,AK1318,techreport,doublespace]{autthesis}
```

This will produce the following:



To print a chapter proof

As you progress, you will need to provide your supervisor proofs of your chapters. It is quite wasteful and annoying for a supervisor to get a complete or partially complete thesis when all the person wants are those pages you have been writing. To solve this problem, a simple solution is provided.

Step 1 Generate the full thesis first, including the bibliography and any cross references.

Step 2 In the header file, `AUTThesis.tex`, locate the line that reads

```
% \ChapterProof{includes/Intro}
```

Note that the command is before the line

```
\begin{Document}
```

Step 3 Uncomment the line (remove the % symbol). This will make the command active.

Step 4 Change the chapter file name to the one you want for a proof.

Step 5 Run \LaTeX and this time, you should get the chapter proof and a title page only

3 Some brief notes on content

1 Page numbering starts on the title page and is arabic (i.e. title page is no.1), all pages are numbered (declaration, figures etc included), but the title page itself shall not show the page number.

2 The preface will consist of the following sections in the following order

- Title page
The ordering of the items on the title page is
 - Title
 - Statement - A thesis...
 - Supervisor(s)
 - Year of Presentation
 - Candidate's name
 - Candidate's department
- Abstract
- Table of Contents
- List of Figures (if any)
- List of Tables (if any)
- Attestation of Authorship
- Co-Authored Works (publications)
- Acknowledgements (plus ethics approval if any)
- Intellectual Property Rights
- Confidential Material

3 Following the chapters, the following sections are included

- References
- Glossary (if any)
- Appendices (if any)
- Third Party Copyright material (if any)

4 The binding (left hand) margin must be no less than 40mm, other margins must be no less than 15mm, with page numbers falling within these margins. The binding margin is thus rather large, even when you take the binding (normally about 10mm) into account. You cannot reduce the other margins without making the page look unbalanced. Consequently we have a 40mm binding margin and 25 mm margin on all other sides.

- 5 The university specifies APA format, I recommend using the apacite style. This conforms to APA 6th.
- 6 **Lists** Since most theses are double or one half spacing, the default settings for the list environments tend to be too widely spaced. To get around this problem I have defined new environments for each. These are

```
itemize*
enumerate*
description*
quotation*
quotation**
```

The extra `quotation**` environment makes an indented quotation even closer to the surrounding paragraphs.

- 7 **Appendices** may be individually listed in the Table of Contents or just shown as a collected list item “Appendices”. To change the appearance from just the single list item to individual appendices, make the change shown below.

From

```
\AUTthesisAppendix{none}
```

to

```
\AUTthesisAppendix{section}
```

- 8 **Marginal notes** From time to time, you will want clarification on some point or you want to draw your supervisor’s attention to some issue. Use the margin note for that. Keep them short. The command can go anywhere in a paragraph.

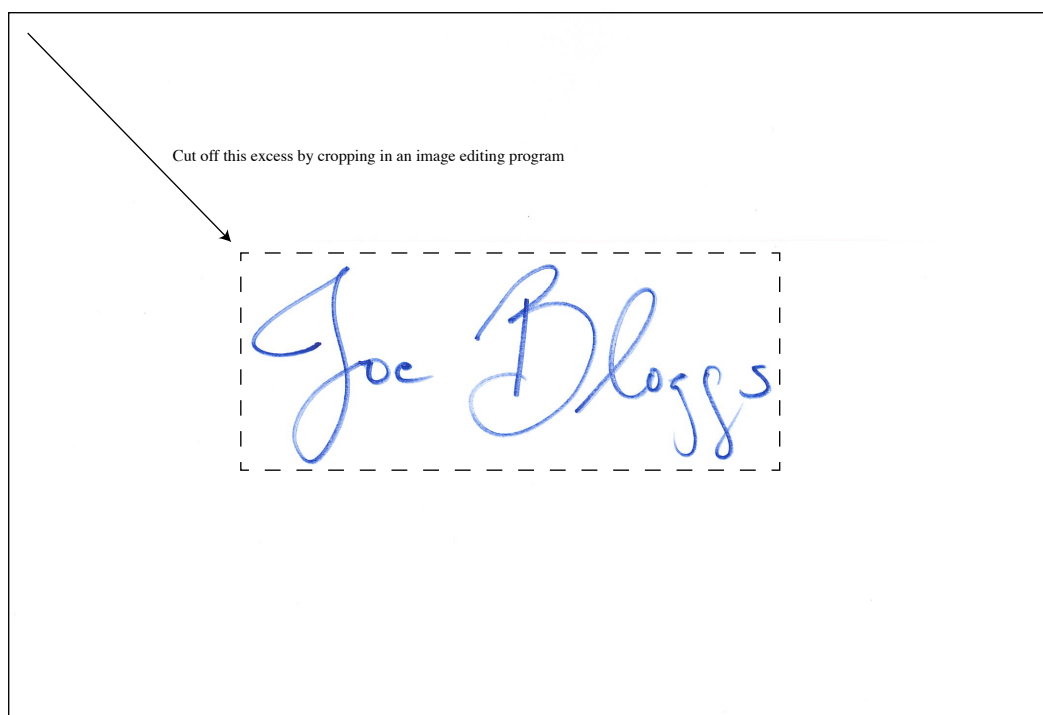
```
\marginNote{put your note here}
```

- 9 **The signature** You will see a box on the Declaration page as below

Replace the file **signature.pdf**
with a scan of your signature.
It is in the main AUTThesis folder
Important, use the same file name

Since all theses are lodged electronically now, it is necessary to provide a signed copy of the thesis in digital form. You should write your signature using a black marker pen on a sheet of clean white paper. Scan the paper and name the file **signature.pdf**. Put the scanned signature into the main AUTThesis folder and replace the file that is already there. The template will scale the signature to the right size.

You should crop the signature so that it fits snugly into the image border, thus.



To get this

Do not change the file name, for example, by adding your name at the start.

- 10 **For the Engineers.** An option has been provided to cite and reference using IEEE standard formats. Do the following:

Comment out the line `\usepackage{apacite}`

Change the line `\bibliographystyle{apacite}` to `\bibliographystyle{ieeetran}`.

Other options are `ieeetranN`, `ieeetranS`, `ieeetranSA`, and `ieeetranSN`.

4 List of programmes

Table 1: List of postgraduate programme qualifications taught at AUT as at 2 March, 2020

Prog. Code	Qualification
AK2040	Bachelor of Advanced Science (Honours)
AK3656	Bachelor of Applied Science (Honours)
AK3670	Bachelor of Art and Design (Honours)
AK3696	Bachelor of Arts (Honours)
AK3712	Bachelor of Business (Honours)
GB3524	Bachelor of Business with Honours in Information Technology
AK1261	Bachelor of Communication Studies (Honours)
AK3687	Bachelor of Computer and Information Sciences (Honours)

Continued over page

Table 1: List of postgraduate programmes. . . (continued)

Prog. Code	Qualification
AK1306	Bachelor of Creative Technologies (Honours)
AK3751	Bachelor of Engineering (Honours)
GB3520	Bachelor of Engineering with Honours in Mechanical Engineering
AK3662	Bachelor of Health Science (Honours)
AK1009	Bachelor of Laws (Honours)
AK1040	Bachelor of Science (Honours)
DJ1040	Bachelor of Science (Honours)
HA1040	Bachelor of Science (Honours)
AK3913	Bachelor of Sport and Recreation (Honours)
AK1293	Doctor of Accounting
AK1245	Doctor of Design
AK3685	Doctor of Education
AK3664	Doctor of Health Science
AK3999	Doctor of Literature
AK3518	Doctor of Philosophy
AK3998	Doctor of Science
COM901	MA(Art&Des) Thesis/Dissertation Extension
COM900	MaA(CommSt) Thesis/Dissertation Extension
AK1321	Master of Analytics
AK1055	Master of Applied Finance
AK1338	Master of Architecture (Professional)
AK3483	Master of Art and Design
AK3689	Master of Arts
MX3689	Master of Arts
AK1060	Master of Business
AK3717	Master of Business Administration
AK1090	Master of Business Management
AK1323	Master of Communication Studies
AK3482	Master of Communication Studies
AK1247	Master of Communication Studies
AK1329	Master of Computer and Information Sciences
AK3688	Master of Computer and Information Sciences
AK1290	Master of Construction Management
AK1249	Master of Contemporary Arts
AK1320	Master of Creative Technologies
AK1303	Master of Creative Writing
AK1067	Master of Criminology and Criminal Justice
AK1335	Master of Cultural and Creative Practice
AK1328	Master of Design
AK1250	Master of Digital Design
AK1251	Master of Digital Media
AK1053	Master of Education
AK3649	Master of Education
AK1054	Master of Education Practice
AK1051	Master of Educational Leadership
AK1280	Master of Educational Leadership
AK1016	Master of Emergency Management
AK3930	Master of Emergency Management
AK1308	Master of Engineering
AK1325	Master of Engineering
AK1317	Master of Engineering Project Management
AK1048	Master of English and New Media Studies
AK2015	Master of Gastronomy
AK1065	Master of Global Business
AK1319	Master of Health Informatics
AK3733	Master of Health Practice

Continued over page

Table 1: List of postgraduate programmes. . . (continued)

Prog. Code	Qualification
AK3485	Master of Health Science
IM3485	Master of Health Science in Physiotherapy
IN3485	Master of Health Science in Acupuncture
IN3485	Master of Health Science in Acupuncture
IJ3485	Master of Health Science in Advanced Nursing Practice
IK3485	Master of Health Science in Midwifery
IL3485	Master of Health Science in Neurological Physiotherapy
IO3485	Master of Health Science in Occupational Practice
IO3485	Master of Health Science in Occupational Practice
II3485	Master of Health Science in Psychotherapy
AK1023	Master of Human Rights
AK1324	Master of Information Security and Digital Forensics
AK1339	Master of Information Technology Project Management
AK1058	Master of International Hospitality Management
AK3705	Master of International Hospitality Management
AK1282	Master of International Tourism Management
AK1057	Master of International Tourism Management
AK1049	Master of Language and Culture
AK1044	Master of Laws
AK1080	Master of Maori and Indigenous Business
AK1045	Master of Marketing
AK1028	Master of Medical Laboratory Science
AK3830	Master of Nursing Science
AK3720	Master of Philosophy
AK3611	Master of Professional Accounting
AK1287	Master of Professional Language Studies
AK3920	Master of Psychotherapy
AK3805	Master of Public Health
HA2037	Master of Science
AK2037	Master of Science
DJ2037	Master of Science
AK1037	Master of Science (Research)
DJ1037	Master of Science (Research)
HA1037	Master of Science (Research)
AK1318	Master of Service-Oriented Computing
AK1332	Master of Social Innovation
AK3910	Master of Sport and Exercise
AK1047	Master of Teaching and Learning
AK1327	Master of Visual Arts
COM450	MCIS Self-Funded Thesis Extension
COM902	MHSc Thesis Dissertation Extension
COM905	MIHM Self-Funded Thesis Dissertation Extension
AK3557	Postgraduate Certificate in Advanced Nursing Practice
AK1004	Postgraduate Certificate in Arts
MX1004	Postgraduate Certificate in Arts
AK3742	Postgraduate Certificate in Business
AK1020	Postgraduate Certificate in Business Administration
AK1070	Postgraduate Certificate in Business Studies
AK1322	Postgraduate Certificate in Communication Studies
AK3746	Postgraduate Certificate in Computer and Information Sciences
AK1440	Postgraduate Certificate in Creative Technologies
AK1336	Postgraduate Certificate in Cultural and Creative Practice
AK1331	Postgraduate Certificate in Design
AK3744	Postgraduate Certificate in Education
AK1059	Postgraduate Certificate in Education Practice
AK1052	Postgraduate Certificate in Educational Leadership

Continued over page

Table 1: List of postgraduate programmes. . . (continued)

Prog. Code	Qualification
AK1025	Postgraduate Certificate in Emergency Management
AK1296	Postgraduate Certificate in Engineering
AK1076	Postgraduate Certificate in English and New Media Studies
AK2017	Postgraduate Certificate in Gastronomy
AK3484	Postgraduate Certificate in Health Science
IC3485	Postgraduate Certificate in Health Science (Cardiorespiratory Rehabilitation)
IH3485	Postgraduate Certificate in Health Science (Rehabilitation)
GB3488	Postgraduate Certificate in Health Science in Midwifery
IE3485	Postgraduate Certificate in Health Science in Neurological Rehabilitation
AK1062	Postgraduate Certificate in Higher Education
AK1068	Postgraduate Certificate in Human Rights
AK3748	Postgraduate Certificate in International Hospitality Management
AK1072	Postgraduate Certificate in International Tourism Management
AK1064	Postgraduate Certificate in Language and Culture
AK1050	Postgraduate Certificate in Law
AK1082	Postgraduate Certificate in Maori and Indigenous Business
AK1026	Postgraduate Certificate in Medical Laboratory Science
AK3811	Postgraduate Certificate in Professional Accounting
AK3807	Postgraduate Certificate in Public Health
DJ1039	Postgraduate Certificate in Science
HA1039	Postgraduate Certificate in Science
AK1039	Postgraduate Certificate in Science
AK1334	Postgraduate Certificate in Social Innovation
AK3912	Postgraduate Certificate in Sport and Exercise
AK1330	Postgraduate Certificate in Visual Arts
AK1056	Postgraduate Diploma in Applied Finance
AK3740	Postgraduate Diploma in Arts
MX3740	Postgraduate Diploma in Arts
GA3740	Postgraduate Diploma in Arts in Communication Studies
AK1326	Postgraduate Diploma in Brand Communication
AK3741	Postgraduate Diploma in Business
GB3559	Postgraduate Diploma in Business
AK1019	Postgraduate Diploma in Business Administration
AK1091	Postgraduate Diploma in Business Management
AK3825	Postgraduate Diploma in Clinical Child and Adolescent Psychotherapy
AK1299	Postgraduate Diploma in Communication Studies
AK3745	Postgraduate Diploma in Computer and Information Sciences
AK1232	Postgraduate Diploma in Counselling Psychology
AK1074	Postgraduate Diploma in Criminology and Criminal Justice
AK3743	Postgraduate Diploma in Education
AK1061	Postgraduate Diploma in Education Practice
AK1015	Postgraduate Diploma in Emergency Management
AK3566	Postgraduate Diploma in Engineering
AK1075	Postgraduate Diploma in English and New Media Studies
AK2016	Postgraduate Diploma in Gastronomy
AK1066	Postgraduate Diploma in Global Business
AK3487	Postgraduate Diploma in Health Science
IA3485	Postgraduate Diploma in Health Science (Cardiorespiratory Rehabilitation)
ID3485	Postgraduate Diploma in Health Science (Critical Care Nursing)
IG3485	Postgraduate Diploma in Health Science (Rehabilitation)
IB3485	Postgraduate Diploma in Health Science (Sport and Exercise)
IF3485	Postgraduate Diploma in Health Science in Advanced Nursing Practice
AK1036	Postgraduate Diploma in Higher Education
AK1069	Postgraduate Diploma in Human Rights
AK3747	Postgraduate Diploma in International Hospitality Management
AK1283	Postgraduate Diploma in International Tourism Management

Continued over page

Table 1: List of postgraduate programmes. . . (*continued*)

Prog. Code	Qualification
AK1063	Postgraduate Diploma in Language and Culture
AK1081	Postgraduate Diploma in Maori and Indigenous Business
AK1046	Postgraduate Diploma in Marketing
AK1027	Postgraduate Diploma in Medical Laboratory Science
AK3711	Postgraduate Diploma in Professional Accounting
AK3806	Postgraduate Diploma in Public Health
AK3558	Postgraduate Diploma in Registered Nurse Prescribing
AK3940	Postgraduate Diploma in Rehabilitation Psychology
DJ1038	Postgraduate Diploma in Science
HA1038	Postgraduate Diploma in Science
AK1038	Postgraduate Diploma in Science
AK1333	Postgraduate Diploma in Social Innovation
AK3911	Postgraduate Diploma in Sport and Exercise
AK1073	Postgraduate Diploma in Teaching and Learning