

Guide on Using GayaUKM

version 1.0

Zambri, Rasidi, Asyraf, Wajdi, Lian, Khamisah, Kamal

zambri@eng.ukm.my, liantze@gmail.com

December 7, 2013

Pusat Pengurusan Siswazah
Universiti Kebangsaan Malaysia

GayaUKM is a \LaTeX class for authoring theses that fulfill formatting specifications required by Universiti Kebangsaan Malaysia (UKM), Malaysia. Why \LaTeX ? It seems that publishers of reputable journals have given attentions to manuscripts or articles using \LaTeX . UKM feels that a guideline on thesis using \LaTeX is necessary to promote general writing using the latter.

Sample `thesis-english.tex` and `tesis-bahasa.tex` are made available as the main guide in the package. It is recommended that authors develop their own arrangement during thesis write-up. Author can rename the files, however ‘`thesis-english.tex`’ (i.e. the English version) will be referred throughout this guide.

The authors of the guideline feel that this is only the first steps to using \LaTeX . There are wide range of applications where theses authors could improve or develop. There are many packages available to support the styles e.g. plotting or equations in certain faculties. Theses authors are welcome, however they should not use packages that could affect the general arrangements.

Some understandings of using higher language are recommended but not necessary. For first time \LaTeX users, authors are recommended to get ‘head starts’ from more experienced colleagues. This could be authors’ first experience using \LaTeX .

Contents

1	Before You Start	2
1.1	Printing from Acrobat Reader	2
1.2	Files	2
1.3	File Installation	3
2	Compiling <code>thesis-english.tex</code> (and similarly <code>tesis-bahasa.tex</code>)	4
3	Writing Your Thesis with \LaTeX	4
3.1	Activation	4
3.2	Author Information	5
3.3	Preliminary Pages	5
3.4	List of Symbols, etc	6
3.5	Main Chapters	6
3.6	Tables and Figures	6
3.7	Citations and Bibliography	7
3.8	Appendices	7

1 Before You Start

1.1 Printing from Acrobat Reader

This is such an important point that I've decided to make it the *first* section:

In the `Print...` dialog, remember to

- set the **paper size** to **A4**;
- set **page scaling** to **None** or **Actual size** or **100%**,

otherwise the page margins and visual font sizes would be incorrect!

1.2 Files

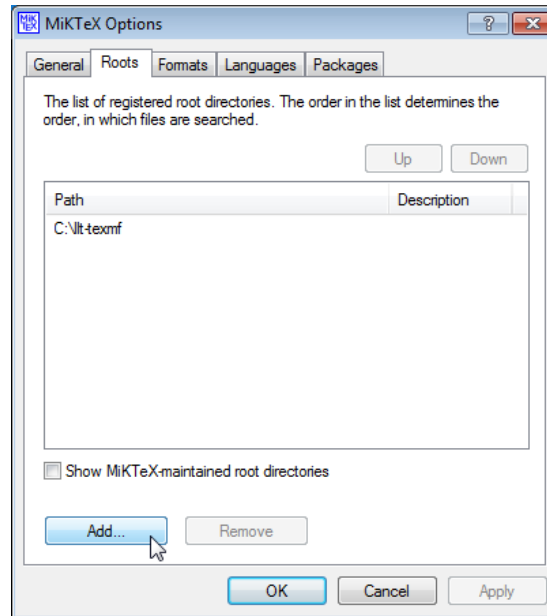
Here's a quick list of the files required when writing your thesis with the GayaUKM class. Easiest way to go about things is to put all the files in the same directory.

- **GayaUKM.cls**, the \LaTeX class file implementing the UKM thesis formatting requirements.
- **GayaUKM.bst**, the \BibTeX bibliography (English) style file.
- **GayaUKM-ms.bst**, the \BibTeX bibliography (Bahasa Melayu) style file.
- **thesis-english.tex**, a sample English thesis `.tex` file using **GayaUKM.cls**.
- **tesis-bahasa.tex**, a sample Bahasa Melayu thesis `.tex` file using **GayaUKM.cls**.
- **refs.bib**, a sample bibliography database file.
- Various `*.tex` files forming the contents of the sample theses.

Things should work if you put all the files in the same directory. If you want to install GayaUKM 'properly', see the next subsection.

1.3 File Installation

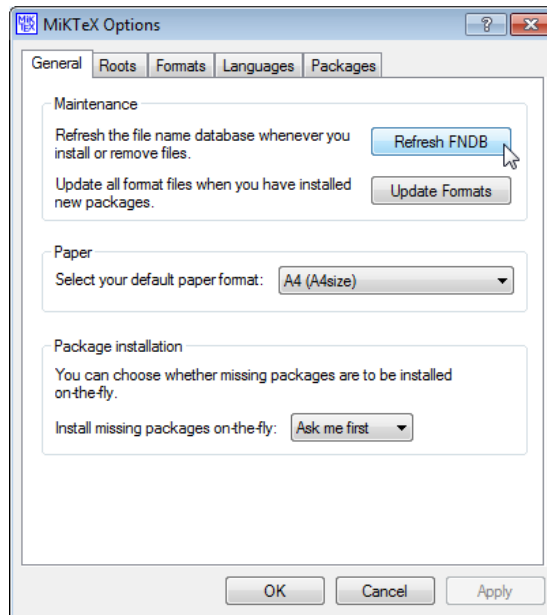
1. Windows Start » MikTeX » Maintenance (Admin) » Settings (Admin)
2. Click on **Roots** tab.
3. Create a new directory on your system, e.g. C:\llt-texmf.
4. **Add...** a user \$TEXMF tree.



5. Copy GayaUKM.cls, GayaUKM.bst and GayaUKM-ms.bst to your user tree as follows:

```
C:\
├─ ll-texmf
│   └─ tex
│       └─ latex
│           └─ GayaUKM
│               └─ GayaUKM.cls
└─ bibtex
    └─ bst
        └─ GayaUKM
            └─ GayaUKM.bst
            └─ GayaUKM-ms.bst
```

6. Click on **General** tab, **Refresh FNDB**:



7. Your \LaTeX system can now use `GayaUKM.cls` from any path.
8. (Mac users: Copy the `.cls` file to `~/Library/texmf/tex/latex/GayaUKM/`, and `.bst` files to `~/Library/texmf/bibtex/bst/GayaUKM/`. You're good to go.)
9. (GNU/Linux users: Copy the `.cls` file to `~/texmf/tex/latex/GayaUKM/`, and `.bst` files to `~/texmf/bibtex/bst/GayaUKM/`. Then run `texhash` as *normal user*.)

2 Compiling `thesis-english.tex` (and similarly `tesis-bahasa.tex`)

The processing tools should be run on `thesis-english.tex` (and similarly `tesis-bahasa.tex`) in the following sequence:

1. `pdflatex`
2. `bibtex`
3. `pdflatex`
4. `pdflatex`

3 Writing Your Thesis with \LaTeX

3.1 Activation

To 'activate' the class, make sure your main document file (e.g. `thesis-english.tex` or `tesis-bahasa.tex`) starts off with `\documentclass[language]{GayaUKM}`:

```
\documentclass[english]{GayaUKM} %% For English
\usepackage{graphicx}
\usepackage{... other packages you need}
```

OR

```
\documentclass[bahasa]{GayaUKM} %% untuk Bahasa Melayu
\usepackage{graphicx}
\usepackage{... other packages you need}
```

This will set up the page margins, paragraph spacing, indents, page numbers, font face and size, language settings, chapter and section headings, citation and bibliography format, amongst other things. However please do *not* import the subcaption or subfigure packages as they will interfere with GayaUKM's caption settings. See section ?? to see how to use subcaptions (for sub-figures and sub-tables) in GayaUKM.

3.2 Author Information

You need to provide some author information in the preamble. Example lines from `thesis-english.tex`:

```
\title{<Your Thesis Title>}
\author{<Your Name>}
\authorid{<P000000 ID No.>}
\faculty{<Your Faculty>}
\submissiondate{2 October 2013}
\submissionyear{2013}
\degreetype{Doctor of Philosophy}
\campus{Bangi}
```

These information are needed to generate the preliminary pages.

3.3 Preliminary Pages

Once in the main document body, `\frontmatter` sets up the, well, front matter. This include setting the page numbers to lower-case Roman numerals. `\maketitle` generates the cover page. `\declaration` can generate the declaration.

```
\begin{document}
\maketitle

\frontmatter
\declaration
```

The English and Malay abstracts, and the acknowledgements, are typeset with the `enAbstract`, `msAbstract`, `acknowledgements` environments:

```
\begin{enAbstract}
This is the English abstract. ...
\end{enAbstract}

% The Malay translation of your title needs to be given here
\begin{msAbstract}[<Terjemahan Tajuk Tesis dalam Bahasa Melayu>]
Inilah abstrak dalam Bahasa Melayu.
```

```
\begin{acknowledgements}
This is the acknowledgements. ...
\end{acknowledgements}
```

Note that the translated title of your thesis needs to be given for the translated abstract. (In the sample files, the English abstract, Malay abstract, acknowledgements, as well as each separate chapter, are each placed in separate files and `\input` into the main thesis file.)

This is followed by the content lists:

```
\tableofcontents
\listoftables
\listoffigures
```

3.4 List of Symbols, etc

These can be prepared using tables. An example is given in `symbols.tex`, to typeset a List of Symbols:

```
\chapter{List of Symbols}
\begin{center}
\doublespacing
\begin{tabular}{ll}
$b, c$ & constants\\
$C_f$ & local friction coefficient\\
\end{tabular}
\end{center}
```

3.5 Main Chapters

Start the main text of your thesis with `\mainmatter`, followed by the usual chapters and sections:

```
\mainmatter
\chapter{Introduction}
...
\section{...}
```

You may want to use `\input` to better organise your chapter files as shown in the sample files.

3.6 Tables and Figures

All tables and figures may be created as usual practice in \LaTeX . You may use extra packages like `booktabs`, `tabularx`, `longtable`, `tabu`, etc. as needed.

The sources of tables and figures may be acknowledged using the `\source` command:

```
\begin{figure}[hbt!]\centering
\includegraphics[width=8cm]{architecture.jpg}
\caption{Architectural design of system}
\source{Original Source of Diagram}
\end{figure}
```

To add captions for sub-figures and sub-tables, use the `\subcaption` command:

```
\begin{figure}[hbt!]\centering
\includegraphics[width=.9\textwidth]{graph1} % subfigure a
\subcaption{Results using ABC}

\includegraphics[width=.9\textwidth]{graph2} % subfigure b
\subcaption{Results using XYZ}

\caption{Performance of ABC and XYZ} % the MAIN caption of this figure
\end{figure}
```

3.7 Citations and Bibliography

Specify your BibTeX database file (e.g. `refs.bib`) with

```
\bibliography{refs}
```

You may use natbib citation commands:

Command	Output
<code>\cite{Edwards:2013}</code>	(Edwards 2013)
<code>\citep{Edwards:2013}</code>	(Edwards 2013)
<code>\citet{Edwards:2013}</code>	Edwards (2013)
<code>\cite[p.~28]{Edwards:2013}</code>	(Edwards 2013, p. 28)
<code>\citeauthor{Edwards:2013}</code>	Edwards
<code>\citeyear{Edwards:2013}</code>	2013
<code>\citeyearpar{Edwards:2013}</code>	(2013)

3.8 Appendices

If you have any appendices, you can add them thus:

```
\appendix
\chapter{Sample Code}
...
```

You may want to use `\input` to better organise your appendix files as shown in the sample files.