

A manual for the `utitcmsg` document class

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1 At the start

This document describes the features of the document class `utitcmsc`, valid as of January 1st, 2013, a \LaTeX format for typesetting M.Sc. theses produced at the Faculty of Geo-information Science and Earth Observation (ITC), University of Twente, Enschede, The Netherlands.

We assume working knowledge with \LaTeX in this document. This manual points out how the format behaves, what it does under the cover, and which options it provides. It is more than likely that this manual will be updated over time, especially when more features are included in the format later. Users of this class are requested to report problems with using the class to the author.

To typeset a `tex` document with this format, one would use in the first line of the `tex` file:

```
\documentclass[draft]{utitcmsc}
```

In the following sections, we will discuss how the format should be used, the features that the format offers, as well as the additional options one has in using it. As it stands, we expect that the format will undergo a number of changes still; it will probably prove necessary to add certain features once the format is put to a more rigid test later. We urge the users to inform us about their ideas and wishes.

The last page of this manual provides a skeleton document that can be used as a start for a main `tex` document.

2 How to use

Besides the above line of declaring your document as an `utitcmsc` \LaTeX document, one needs to be aware of the following eight declarations that one *must* make in the file's preamble:

```
\title{ }
\author{ }
\ThesisMonth{ }
\ThesisCourse{ }
```

```
\ThesisYear{ }
\ThesisAdvisor{ }
\ThesisSupervisors{ }
\ThesisChair{ }
\ThesisExaminers{ }
\ThesisKeywords{ }
```

We will see examples of what to put inside the curly brackets below.

The first two are standard \LaTeX commands, used for declaring the title of the work and its author. The title should be provided in uppers-and-lowers capitalisation, meaning that you capitalise the first word, every word after a colon and m-dash, as well as all other words except for articles, unstressed conjunctions and unstressed prepositions.

Your name is as written in full, and as you would want it on your diploma.

The others commands are specific to the `utitcmsc` class. The information provided will be used by the format to typeset in a standard way the front matter of the document, in a way compliant with ITC's thesis requirements.

When one omits one or more of these declarations, the document will typeset but will include some text like "currently unknown" or "please provide."

One can have multiple thesis advisors or examiners. Include them in the same declaration, and separate their names using `"\"`. This is the only place where you provide academic titles with people names, in the format 'Title Initials Name'. In those names you should observe the proper white-spacing. An example is:

```
Prof.\ dr.\ Mallebroetje
```

Those two `\`'s make sure that the period before them is *not* interpreted as an end-of-sentence period, which would cause a wider spacing behind.

External examiners receive additional attention, as you will include the name of their institute. An example is:

```
\ThesisExaminers{Dr.\ I. M. Excited
                  (Wageningen University)}
```

(Incidentally, \LaTeX does not think of an uppercase character followed by a period as a possible end-of-sentence, so a repair `\` is not needed in I. M.)

Otherwise, the `utitcmsc` class very much operates as if one had used the following class declaration:

```
\documentclass[a4paper,11pt,fleqn,
               twoside,titlepage,onecolumn,
               openright]{book}
```

For documentation on these standard \LaTeX options and the `book` document class, look elsewhere. Observe that one should not use these options in one's `tex` document; we merely mention them here to make the user of the `utitcmsc` class understand what it does.

3 The `tex` document structure

An M.Sc. thesis is best viewed as a special type of book with chapters. One may opt to group the chapters in two or more parts, but this is actually rather uncommon. Above, we already mentioned what should go in the preamble of the `tex` file. Here we will indicate what is needed in the main part of that file, i.e., inside the document environment.

To generate all of the title page materials, one *should* issue a `\maketitle` command as the first thing. Following that command, there should be a `\frontmatter` command.

Next, you should have this be followed by an abstract. For this, the format provides an abstract environment. The inclusion of an abstract is optional, though supervisors might insist.

Optionally, one may then include the `acknowledgements` environment for thanking people, institutes, governments and the almighty.

You must also include a table of contents, a list of figures, and a list of tables. All of these are to be obtained by including the standard \LaTeX declarations at this point in the `tex` file.

An obligatory declaration follows now: it is `\mainmatter`. Amongst others, it will cause page numbering to start anew, using standard arabic numerals.

From here, the main chapters of the thesis follow. This section's discussion can be summarised as is indicated on the last page of this manual. You can copy-and-paste that page as starter of your main `tex` file.

After all the main chapters, you should then issue a `\backmatter` command, after which follows your bibliography material, and possible appendices. The first is obtained by:

```
\bibliographystyle{...}
\bibliography{...}
```

Do not pick too complicated a `bibstyle`. The style `abbrv` is a good starter to work with.

If you have appendices, you should issue next a command `\appendix`, followed by as many `\include{...}` statements as you have appendices. Each appendix `tex` file will use `\chapter{...}` to start it off.

4 The features offered

On top of what we discussed above, the following features are offered automatically by the class. You should make no attempts to change these settings:

- all text fonts are Garamond, as required for ITC's M.Sc. theses;
- all math fonts are using fonts of `mathdesign`, fitting with Garamond;
- the embedded rules for hyphenation are those for (British) English;
- page layout is for A4 paper size, with a standardised header and footer to the page, including a page number. The first page of a chapter comes out in a special way;

- the `\maketitle` generates a number of rather special pages (see an output file for details), specific for ITC;
- all main document elements (lists of figures/tables, abstract, acknowledgements, index, bibliography, appendices) when used, will be listed in the table of contents;
- figure captions will be centered below the figure (as is the default in the book class; table captions will be centered *above* the table (not the default));
- the class automatically loads the packages `graphicx`, `makeidx` and `longtable`, so authors need not do this themselves.

5 Optional settings

Generally, we discourage authors to make changes to the default settings.

The one option that should be used during the write-up stages of the thesis is `draft`. Without it, one is in `final` mode. Use of `draft` happens with the following:

```
\documentclass[draft]{utitcmsc}
```

This causes \LaTeX to start complaining more about more minute typesetting issues, and to prepare your pages with a “this is a draft version” message. Overrun lines are shown as a black box at the end of such lines. These boxes will disappear when you switch back to final mode. (To make the overrun lines disappear you obviously still need to be something to such lines.)

A bibliography can be included in the standard way; a \BIBTeX run is obviously needed to create a proper bibliography.

If one decides to create an index for the document, a `\makeindex` command should be issued in the preamble of the `tex` file. In the main document, one also needs to issue a `\printindex` command, at the point where one wants the index to

appear. Index creation requires a run of `MakeIndex`, as is documented elsewhere. An index typically appears after the bibliography, but before any appendices.

6 The use of other packages

There are many additional packages that one can use in thesis production, and quite a few are handy for certain things. I do not want to discourage the use of those packages, but you should be aware that they might cause havoc on definitions in the package `utitcmsc`, here described.

You should especially on your guard with any package that tries to redefine the headings of chapters, sections, subsections, and special parts such as the “Lists of ...” Such packages will very likely break `utitcmsc`, and I cannot repair these cases for you. Read that as “I will not.”

A special word of warning for those of you tempting to use the great package `hyperref`. With the limited time available for defining `utitcmsc`, I did *not* try to protect it against the definitions that `hyperref` makes. That package is a great facility, allowing you to create a fully hyperlinked pdf version of your thesis, but it also is a monster and disrupts many things, including definitions in our thesis package.

I want to discourage the use of `hyperref` for the period before your deadline of submission. Submit first, and then use it to produce a hyperlinked version of the thesis, for future use, perhaps as a companion to your CV ...

There may come a time when `utitcmsc` is fully conversant with `hyperref` but that time is not soon.

```
\documentclass[draft]{utitcmsc}

\title{...}
\author{...}
\ThesisMonth{...}
\ThesisCourse{...}
\ThesisYear{...}
\ThesisAdvisor{...}
\ThesisSupervisors{...}
\ThesisExaminers{...}
\ThesisKeywords{..., ...}

\begin{document}
\maketitle

\frontmatter

\begin{abstract}
...
\end{abstract}

\begin{acknowledgements}
...
\end{acknowledgements}

\tableofcontents
\listoffigures
\listoftables

\mainmatter

\include{chapterOne}

\include{chapterTwo}

...

\backmatter

\bibliographystyle{...}
\bibliography{...}

\include{appendixOne}

\end{document}
```