The `ksp-thesis` class

A LaTeX class for theses published with KIT Scientific Publishing

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The ksp-thesis class is a LaTeX class intended for authors who want to publish their thesis or other scientific work with *KIT Scientific Publishing (KSP)*. The class is based on the scrbook class of the KOMA-script package in combination with the ClassicThesis and ArsClassica packages. It modifies some of the layout and style definitions of these packages in order to provide a document layout that should be compatible with the requirements by KSP.

1 Introduction

This class is intended to aid authors intending to publish a thesis (or a similar scientific work) with KIT Scientific Publishing (KSP)[1], the internal publishing company of the Karlsruhe Institute of Technology (KIT). The layout provided by this class was used for publication of my own thesis at KSP and should thus adhere to their requirements. However, while being based on the official LaTeX templates provided by KSP, the class is not maintained by KSP.

The ksp-thesis class builds on the scrbook class of the KOMA-script[2] package in combination with the ClassicThesis[3] and ArsClassica[4] packages. Therefore, you (the user of this class) should be familiar with these three packages.

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*http://exergie100.de/en/contact/

[1] `http://www.ksp.kit.edu/`

[2] `http://www.ctan.org/pkg/koma-script`

[3] `http://www.ctan.org/pkg/classicthesis`

[4] `http://www.ctan.org/pkg/arsclassica`

André Miede, the author of the ClassicThesis package, asks his package users to send him a postcard:

If you like the style then I would appreciate a postcard:

André Miede
Detmolder Straße 32
31737 Rinteln
Germany

The postcards I received so far are available at:

`http://postcards.miede.de`

As the ksp-thesis class uses many features of the ClassicThesis package, I would ask you to do so as well if you use ksp-thesis class.

2 Installation

1. Get the latest release of **`ksp-thesis.zip`** from

    `https://github.com/GORywwyN/ksp-thesis/tree/master/release/`

    or download the file

    `http://mirrors.ctan.org/macros/latex/contrib/ksp-thesis.zip`

2. Extract the file **`ksp-thesis.tds.zip`** from the archive

3. Unpack the **`ksp-thesis.tds.zip`** archive in the root directory of the local TEX installation tree, for example

    - **`/usr/local/share/texmf/`** or
    - **`/usr/share/texmf-local/`** or
    - **`C:\Local TeX Files\`**

4. Update the file hash tables (also known as the file name database).

    On TEXLive systems, run **`texhash`** as root (**`sudo texhash`**). On MiKTEX, run **`initexmf --update-fndb`** in a command window or use the «*Refresh FNDB*» button of the MiKTEX Options window.

3 Usage

Using ksp-thesis as your document class (`\documentclass{ksp-thesis}`) without any options will have the following effects:

1. The scrbook class of the KOMA-script package is loaded as base class. All options provided to the class (except the ksp-thesis-specific options listed in section 3.1) are passed on to KOMA-script.

2. The packages ClassicThesis and ArsClassica are loaded, thus applying their layout and style settings. However, some settings of these packages are overridden or changed:

   a) The page layout defined by ClassicThesis is overridden and constructed by KOMA-script instead.

   b) Parts and chapters in the table of contents are emphasized by using bold font instead of uppercase words.

   c) Page numbers are set flushed right in the table of contents.

   d) List environments (`itemize, enumerate, description`) are set ragged right.

   e) Headings (`chapter`, ..., `subsubsection`) are set ragged right.

   f) Heading numbers use the width of the current chapter number, whereby the headings from level `chapter` until `subsubsection` begin at the same horizontal position.

   g) The numbers of footnotes are shifted to the left so that footnotes have the same left margin as the text area.

   h) Formatting (coloring) of hyperlinks is removed.[5]

Some of these settings can be changed using the class options listed in the following.

3.1 Options

The class options below are formatted as **option**=*default value* or =*value*. For boolean options, =*true* can be omitted.

3.1.1 Generic layout

layout   Set the KOMA-script page layout according to one of the following options:

=*report*   KIT Scientific Report layout (A4 paper size) for publication release

=*17x24*   KIT Scientific Publishing book layout (17 cm x 24 cm paper size) for publication release

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[5] I believe that coloring options should be left to the document author and in general used sparingly.

| =*official* | two-sided layout (paper size A4) for faculty and thesis committee (identical to *report*) |
| =*draft* | singled-sided layout (paper size A4) for private and correction prints |

raggedlists

Set lists (itemize, enumerate, description) . . .

| =**true** | . . .ragged right. (More specifically, the **\RaggedRight** command of the ragged2e package is used.) |
| =*false* | . . .justified. |

3.1.2 Table of contents layout

dottedtoc Set page numbers in the table of contents . . .

| =**true** | . . .flushed right. For sections entries and below, page numbers are separated by dots. For part and chapter entries, empty space is used by default. This default setting can be changed with the options **dottedtocparts** and **dottedtocchapters**. |
| =*false* | . . .separated by a fixed-width space. |

dottedtocparts

Separate part entries and page numbers in the table of contents . . .

| =**false** | . . .with empty space. |
| =*true* | . . .with dots. This value should only be used with **dottedtoc**=*true*. |

dottedtocchapters

Separate chapter entries and page numbers in the table of contents . . .

| =**false** | . . .with empty space. |
| =*true* | . . .with dots. This value should only be used with **dottedtoc**=*true*. |

tocpartentriesbold

Format part entries in the table of contents . . .

| =**true** | . . .with bold font. |
| =*false* | . . .with spaced low small caps. (This is the default setting of ClassicThesis). |

tocchapterentriesbold

Format chapter entries in the table of contents . . .

| =**true** | . . .with bold font. |
| =*false* | . . .with spaced low small caps. (This is the default setting of ClassicThesis). |

tocentriesbold

Format part and chapter entries in the table of contents . . .

| =**true** | . . .with bold font. |
| =*false* | . . .with spaced low small caps. (This is the default setting of ClassicThesis). |

3.2 Commands

When publishing with KSP, you will be asked to avoid single syllables or short words in the last line of a paragraph. For this purpose, ksp-thesis defines some commands that can be used to change the word spacing or stretching[6].

\reducewspc[<num>]
Change the word spacing to **<num>** (default: **.95**) times its original value.

\reducewstr[<num>]
Change the word stretching to **<num>** (default: **.95**) times its original value.

\resetwspc
Reset the word spacing to its default value.

\resetwstr
Reset the word stretching to its default value.

4 Troubleshooting and Usage Tips

4.1 Using options of the ClassicThesis package

If you want to use options of the ClassicThesis package, you have to provide them *before* the documentclass definition. In general, I recommend using at least the following options:

```
how to pass options to the ClassicThesis package

\PassOptionsToPackage{%
  pdfspacing,      % make use of pdftex' letter spacing capabilities via
      the microtype package.
  floatperchapter, % activate numbering per chapter for all floats such
      as figures, tables, and listings
}{classicthesis}
\documentclass[%
  listof=totoc,       % add list of figures, tables, etc. to table of
      contents
  ngerman,english,    % document language(s)
]{ksp-thesis}
```

4.2 Spacing of heading numbers for long documents

If your document contains a large number of parts and/or chapters, you may have to enlarge the space reserved for part and chapter numbers in the table of contents. This

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[6]Make sure that the legibility of your text is not impaired when using these commands.

space is controlled by `\cftpartnumwidth` and `\cftchapnumwidth`, respectively.

For example, if your document contains eight parts, you may adjust the width as follows:

```
how to adjust the width of part and chapter numbers in the table of contents

\settowidth{\cftpartnumwidth}{\cftpartpagefont VIII}
\setlength{\cftchapnumwidth}{\cftpartnumwidth}
```

Further information on how to modify the layout of the table of contents can be found in the documentation of the tocloft[7] package.

4.3 Changing the color of part headings

Part headings are displayed using the color "`parttitlecolor`".[8] If, for example, you prefer a black-and-white document, you can thus simply redefine this color to be black:

```
how to change the color of part headings

\definecolor{parttitlecolor}{named}{black}
```

5 Example

Here is a minimal example of a document based on ksp–thesis:

```
minimal example document

\PassOptionsToPackage{%
  pdfspacing,       % makes use of pdftex letter spacing capabilities
      via the microtype package
  floatperchapter,  % activates numbering per chapter for all floats
}{classicthesis}
\documentclass[
   layout=17x24,   % set page layout according to document status
   english,        % document language
]{ksp-thesis}
\usepackage[utf8]{inputenc}   % file encoding
\usepackage[T1]{fontenc}      % font encoding
\usepackage{babel}            % spelling, hyphenation, etc.
\usepackage{blindtext}        % blindtext macros
\begin{document}
\title{The \texttt{ksp-thesis} class}
\author{Publi Cator}
```

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[7] `http://www.ctan.org/pkg/tocloft`

[8] The ClassicThesis package uses the color "`Maroon`" as defined by the xcolor package to emphasize part headings. I believe that it is more convenient to use a semantic color name instead.

```
\date{\today}
\maketitle
\tableofcontents
\blinddocument
\end{document}
```

A complete, extensively commented example which can be used as framework for your thesis can be found in the subfolder **./demo/full/**.

6 Version history

1.0.2 (2015-12-09)

- Use the scrlayer-scrpage package instead of the obsolete scrpage2 package (thanks to Martin Feck for pointing this out)
- Require the hyperref package explicitly to avoid errors when using TEXLive

1.0.1 (2015-12-06)

Correct installation information in the documentation file

1.0 (2015-12-06)

Initial release

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