

# LaTeX Template Documentation

A comprehensive guide to use this template

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\*<http://LaTeX.TUGraz.at>

## 1 How to use this L<sup>A</sup>T<sub>E</sub>X document template

This L<sup>A</sup>T<sub>E</sub>X document template from L<sup>A</sup>T<sub>E</sub>X@TUG<sup>1</sup> is based on KOMA script<sup>2</sup>. It provides an easy to use and easy to modify template. All settings are documented and many references to additional information sources are given.

### 1.1 Modify this template for your requirements

1. Put your desired PDF file name in the second line of file `Makefile`
  - replace `»Projectname«` with your filename
  - do not use any file extension like `.tex` or `.pdf`
2. OPTIONAL: Modify files in the folder `preamble` if necessary
  - following sections should give you an idea what to do and why
3. Modify `userdata.tex`:
  - `\myauthor`, `\mytitle`, and so forth
4. Modify `main.tex`:
  - your desired general document structure
5. replace file or fill your content in `introduction.tex`
  - you can rename `introduction.tex` but then you have to modify its include command in `main.tex` too
6. OPTIONAL: create further tex-files (similar to `introduction.tex`) for each chapter of your document
  - include them according to the example of introduction in `main.tex`
7. generate your document
  - with a L<sup>A</sup>T<sub>E</sub>X editor:
    - select `main.tex` as the `»main project file«` or make sure to compile/run only `main.tex` (and not `introduction.tex` or similar)

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<sup>1</sup><http://LaTeX.TUGraz.at>

<sup>2</sup><http://komascript.de/>

- OR with GNU make: run `make pdf`
- OR with plain command line:
  - run `pdflatex main.tex` (invoke twice!)
  - if you are using BibTeX, start `bibtex main` followed by `pdflatex main.tex`

## 1.2 How to compile this document

### 1.2.1 GNU/Linux, OS X, UNIX, Cygwin

If your system provides GNU make<sup>3</sup>, it is very easy to compile this document:

```
make pdf
```

You can get a list of all other commands provided by the Makefile by invoking `make help`.

If you do not have GNU make, you can compile `main.tex` within your L<sup>A</sup>T<sub>E</sub>X editor.

### 1.2.2 All other systems including Microsoft Windows

If your system does not provide GNU make or you do not want to use GNU make, you can compile this document using the usual method with pdfL<sup>A</sup>T<sub>E</sub>X:

```
pdflatex main.tex
pdflatex main.tex
```

If you are using BibT<sub>E</sub>X you have to add its commands such as:

```
pdflatex main.tex
bibtex main
pdflatex main.tex
pdflatex main.tex
```

Additional commands are required for packages like `makeindex` and so forth.

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<sup>3</sup>[https://secure.wikimedia.org/wikipedia/en/wiki/Make\\_%28software%29](https://secure.wikimedia.org/wikipedia/en/wiki/Make_%28software%29)

## 1.3 How to get rid of the template documentation

Simply remove the files `Template_Documentation.pdf` and `Template_Documentation.tex` (if it exists) in the main folder of this template.

## 1.4 What about modifying the template?

This template provides an easy to start  $\text{\LaTeX}$  document template with sound default settings. You can modify each setting any time. It is recommended that you are familiar with the documentation of the command whose settings you want to modify.

The following sections describe the settings and commands of this template and gives a short overview of its features.

## 2 `preamble.tex` — Main preamble file

In file `preamble/preamble.tex` you will find the basic definitions related to your document. This template uses the KOMA script extension package of  $\text{\LaTeX}$ .

There are comments added to the `\documentclass{}` definitions. Please refer to the great documentation of KOMA<sup>4</sup> for further details.

**What should I do with this file?** For standard purposes you might use the default values it provides. You must not remove its `include` command in `main.tex` since it contains important definitions. This file contains settings which are documented well and can be modified according to your needs. It is recommended that you fully understand each setting you modify in order to get a good document result.

### 2.1 UTF8 as input charset

You are able and should use UTF8 character settings for writing these  $\text{\TeX}$ -files.

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<sup>4</sup>`screguide.pdf` for German users

## 2.2 Language settings

The default setting of the language is American. Please change settings for additional or alternative languages used.

## 2.3 Headers and footers

Since this template is based on KOMA script it uses its great scrpage2 package for defining header and footer information. Please refer to the KOMA script documentation how to use this package.

## 2.4 Miscellaneous packages

There are several packages included by default. You might want to activate or deactivate them according to your requirements:

`pifont` For additional special characters available by `\ding{}`

`ifthen` For using if/then/else statements for example in macros

`eurosym` Using the character for Euro with `\officialeuro{}`

`xspace` This package is required for intelligent spacing after commands

`color` This package defines basic colors

## 3 `typographic_settings.tex` — Typographic finetuning

The settings of file `preamble/typographic_settings.tex` contain typographic finetuning related to things mentioned in literature. The settings in this file relates to personal taste and most of all typographic experience.

**What should I do with this file?** You might as well skip the whole file by excluding the `\input{preamble/typographic_settings.tex}` command in `main.tex`. For standard usage it is recommended to stay with the default settings.

### 3.1 References related to typographic settings

## References

[Bringhurst1993] **Robert Bringhurst**

*The Elements of Typographic Style*

paperback, first edition, 1993

[Eijkhout2008] **Victor Eijkhout**

*T<sub>E</sub>X by Topic, a T<sub>E</sub>Xnician's Reference*

document revision 1.2, may 2008

<http://www.eijkhout.net/texbytopic/texbytopic.html>

### 3.2 French spacing

**Why?** [Bringhurst1993, p 28, p 30]: ‘2.1.4 Use a single word space between sentences.’

**How?** [Eijkhout2008, p 185]:

`\frenchspacing` %% Macro to switch off extra space after punctuation.

Note: This setting might be default for KOMA script.

### 3.3 Text figures

... also called old style numbers. (German: Mediävalziffern<sup>5</sup>)

**Why?** [Bringhurst1993, p 44f]:

‘3.2.1 If the font includes both text figures and titling figures, use titling figures only with full caps, and text figures in all other circumstances.’

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<sup>5</sup>[https://secure.wikimedia.org/wikibooks/de/wiki/LaTeX-W%C3%B6rterbuch:\\_Medi%C3%A4valziffern](https://secure.wikimedia.org/wikibooks/de/wiki/LaTeX-W%C3%B6rterbuch:_Medi%C3%A4valziffern)

**How?** Quoted from Wikibooks<sup>6</sup>:

Some fonts do not have text figures built in; the `textcomp` package attempts to remedy this by effectively generating text figures from the currently-selected font. Put `\usepackage{textcomp}` in your preamble. `textcomp` also allows you to use decimal points, properly formatted dollar signs, etc. within `\oldstylenums{}`.

...but proposed L<sup>A</sup>T<sub>E</sub>X method does not work out well. Instead use:  
`\usepackage{hfoldsty}` (enables text figures using additional font) or  
`\usepackage[sc,osf]{mathpazo}` (switches to Palatino font with small caps and old style figures enabled).

### 3.4 Abbreviations using small caps

**Why?** [Bringhurst1993, p 45f]: ‘3.2.2 For abbreviations and acronyms in the midst of normal text, use spaced small caps.’

**How?** Using the predefined macro `\myabk{}` for things like UNO or UNESCO using `\myabk{UNO}` or `\myabk{UNESCO}`.

### 3.5 Colorized headings and links

This document template is able to generate an output that uses colorized headings, captions, page numbers, and links. The color named ‘DispositionColor’ used in this document is defined near the definition of package `color` in the preamble (see section 2.4). The changes required for headings, page numbers, and captions are defined here.

Settings for colored links are handled by the definitions of the `hyperref` package (see section 4).

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<sup>6</sup>[https://secure.wikimedia.org/wikibooks/en/wiki/LaTeX/Formatting#Text\\_figures\\_.28.22old\\_style.22\\_numerals.29](https://secure.wikimedia.org/wikibooks/en/wiki/LaTeX/Formatting#Text_figures_.28.22old_style.22_numerals.29)

## 4 pdf\_settings.tex — Settings related to PDF output

The file `preamble/pdf_settings.tex` basically contains the definitions for the [hyperref package](#) including the [graphicx package](#). Since these settings should be the last things of any  $\text{\LaTeX}$  preamble, they got their own  $\text{\TeX}$  file which is included in `main.tex`.

**What should I do with this file?** The settings in this file are important for PDF output and including graphics. Do not exclude the related input command in `main.tex`. But you might want to modify some settings after you read the [documentation of the hyperref package](#).