COFFEE

LECTURE

UNIVERSITÄT BERN

Make it your own! Personalize your LaTeX thesis with style and class

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Research Support Team
Science Library

Thursday
07.12.2023
13:00, Zoom

Introduction

Test file: TeXstudio with MiKTeX distribution

What is the difference between class and style?

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- A class is a combination of typographical settings combined to form a document (file extension *.cls)
- Style files (or packages) change the design of a document (file extension *.sty)

„If new commands could be used with any document class, then make them a package; and if not, then make them a class."
From LaTeX2e for class and package writers, section 2.3

What is the difference between class and style?

What is the difference between class and style?

Different Options to change the look of your thesis

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- Use style packages in your thesis file

- Create your own thesis class

- Find templates which do the work for you

Use packages to change your thesis file

Window title bar: C:\Users\lk164\Desktop\LATEX\Masterarbeitx\TESTI_2.tex - TeXstudio

Menu: Datei Bearbeiten Idefix Tools Latex Mathe Assistenten Bibliographie Makros Anzeige Optionen Hilfe

Tabs: TESTI_2.tex   TESTI.tex

```latex
\documentclass{report}

\usepackage{lipsum}
\usepackage{color}
\usepackage{titlesec}

\titleformat{\chapter}[display]{\normalfont\large\bfseries\color{blue}}{\chaptertitlename\ \thechapter}{20pt}{\Huge}[]

\begin{document}

\chapter{This is the first chapter}
\lipsum[1-2]

\end{document}
```

Preview pane:

Chapter 1

This is the first chapter

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

Zeile: 3   Spalte: 0   Modus: Einfügen

Create your own thesis class

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AppData > Local > Programs > MiKTeX > tex > latex > base

Sortieren ∨   Anzeigen ∨   •••

Name	Änderungsdatum	Typ	Größe
ullasy.fd	30.11.2022 22:36	FD-Datei	3 KB
article	30.11.2022 22:36	LaTeX Class	20 KB
book	30.11.2022 22:36	LaTeX Class	23 KB
letter	30.11.2022 22:36	LaTeX Class	14 KB
ltnews	30.11.2022 22:36	LaTeX Class	20 KB
ltxdoc	30.11.2022 22:36	LaTeX Class	9 KB
ltxguide	30.11.2022 22:36	LaTeX Class	8 KB
minimal	30.11.2022 22:36	LaTeX Class	2 KB
proc	30.11.2022 22:36	LaTeX Class	4 KB
report	30.11.2022 22:36	LaTeX Class	23 KB
slides	30.11.2022 22:36	LaTeX Class	17 KB
source2edoc	30.11.2022 22:36	LaTeX Class	10 KB
fontmath	30.11.2022 22:36	LaTeX Document	25 KB

- Find standard *.cls files in your MiKTeX repository

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Create your own thesis class


```
 1   %%
 2   %% This is file `report.cls',
 3   %% generated with the docstrip utility.
 4   %%
 5   %% The original source files were:
 6   %%
 7   %% classes.dtx  (with options: `report')
 8   %%
 9   %% This is a generated file.
10   %%
11   %% The source is maintained by the LaTeX Project team and bug
12   %% reports for it can be opened at https://latex-project.org/bugs.html
13   %% (but please observe conditions on bug reports sent to that address!)
14   %%
15   %%
16   %% Copyright (C) 1993-2022
17   %% The LaTeX Project and any individual authors listed elsewhere
18   %% in this file.
19   %%
20   %% This file was generated from file(s) of the LaTeX base system.
21   %% --------------------------------------------------------------
22   %%
23   %% It may be distributed and/or modified under the
24   %% conditions of the LaTeX Project Public License, either version 1.3c
25   %% of this license or (at your option) any later version.
26   %% The latest version of this license is in
27   %%    https://www.latex-project.org/lppl.txt
28   %% and version 1.3c or later is part of all distributions of LaTeX
29   %% version 2008 or later.
30   %%
31   %% This file has the LPPL maintenance status "maintained".
32   %%
33   %% This file may only be distributed together with a copy of the LaTeX
34   %% base system. You may however distribute the LaTeX base system without
35   %% such generated files.
36   %%
```

- Find standard *.cls files in your MiKTeX repository

- Make a copy, RENAME it, and store it in your thesis folder (not in MiKTeX folder…)

- Try to make sense of the class file structure and find the parts you want to adjust 😬

Create your own thesis class

Rename: myownreport.cls

Comment change!

Create your own thesis class

The screenshot shows the TeXstudio editor with the file C:\Users\lk164\Desktop\LATEX\Masterarbeitx\TESTI.tex

Menu bar: Datei Bearbeiten Idefix Tools Latex Mathe Assistenten Bibliographie Makros Anzeige Optionen Hilfe

Tabs: TESTI.tex   TESTI_2.tex

Editor content:

```
\documentclass{myownreport}

\usepackage{lipsum}

\begin{document}

\chapter{This is the first chapter}
\lipsum[1-2]

\end{document}
```

Preview pane:

Chapter 1

This is the first chapter

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.
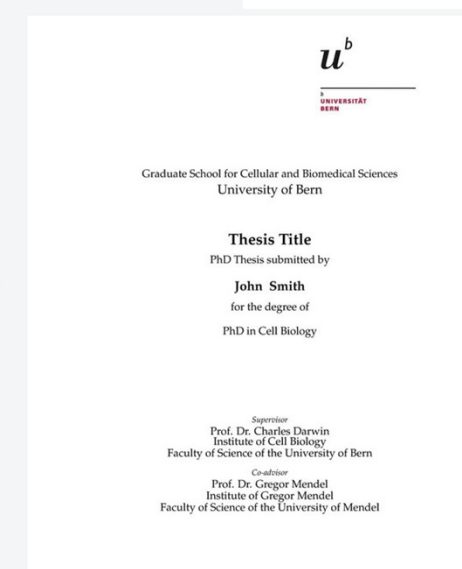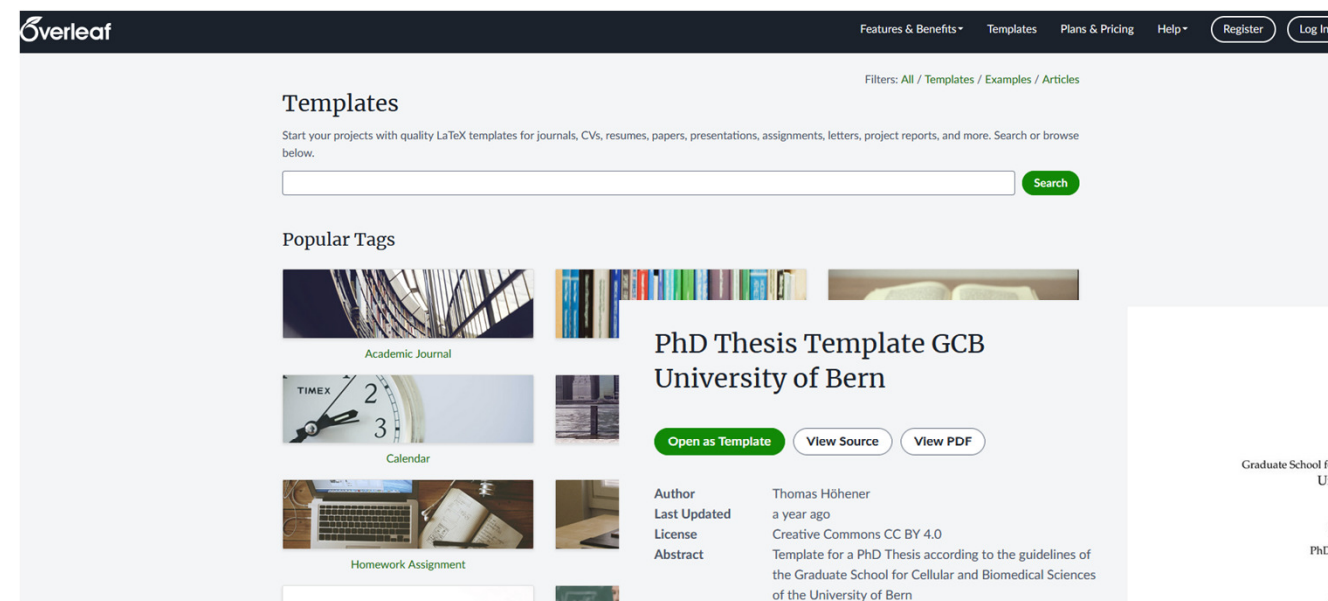
Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

Zeile: 6   Spalte: 16   Modus: Einfügen
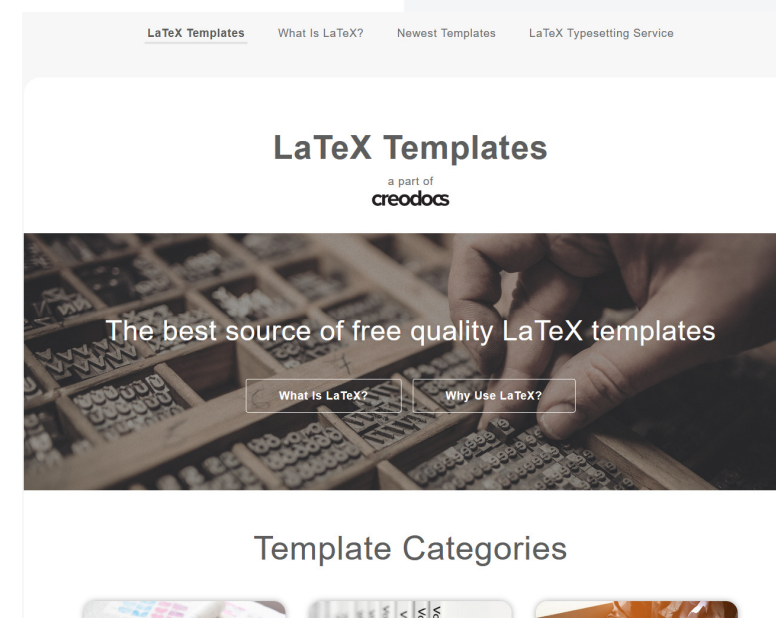
Use thesis templates

Sources for LaTeX Templates:

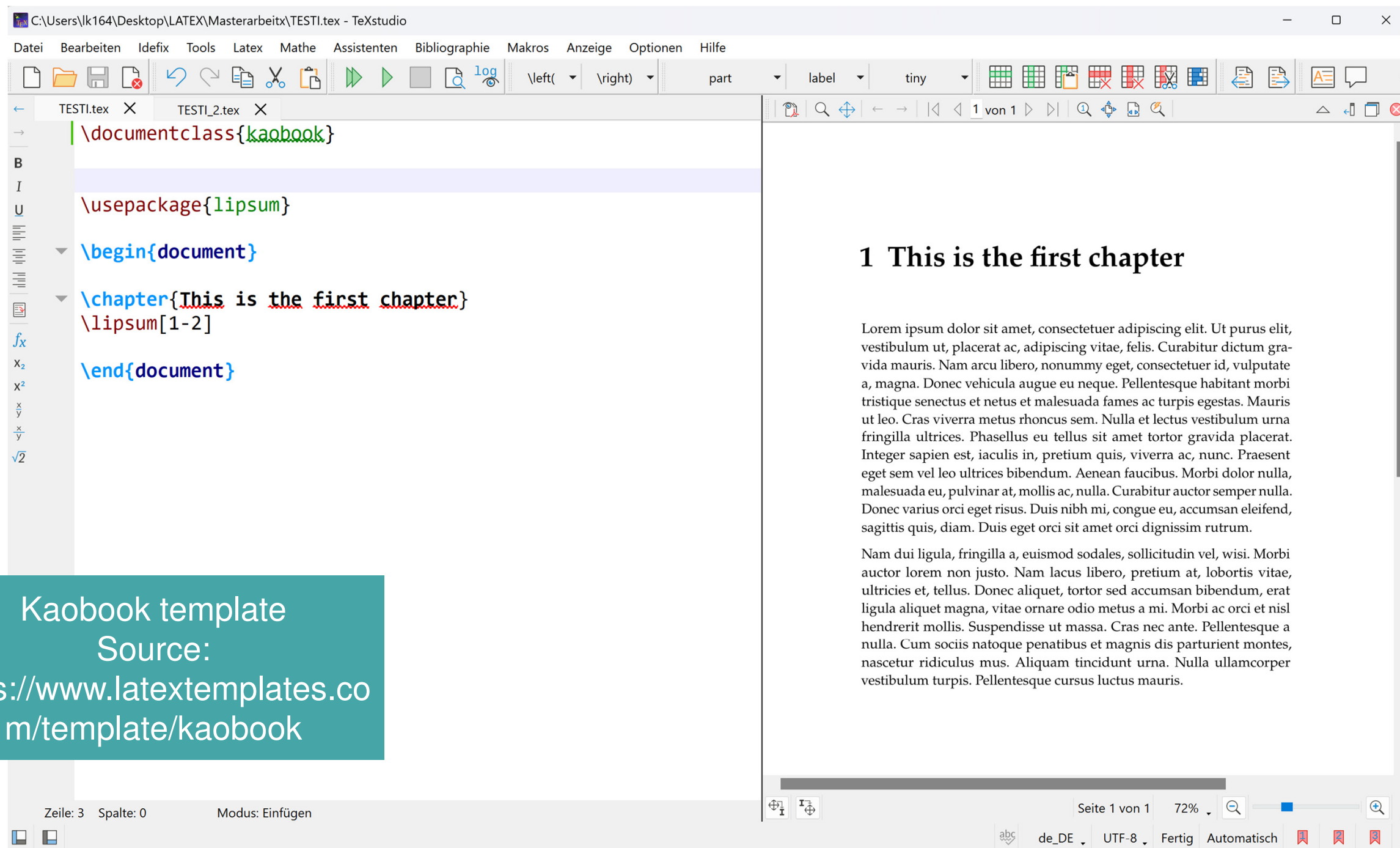- www.latextemplates.com

- www.overleaf.com

- www.github.com

Examples for impressive LaTeX designs

https://tex.stackexchange.com/questions/1319/showcase-of-beautiful-typography-done-in-tex-friends

https://tex.stackexchange.com/questions/34301/how-to-add-some-visual-style-and-pizzazz-to-course-notes

Use thesis templates

Kaobook template
Source:
https://www.latextemplates.com/template/kaobook

Use thesis templates

Kaobook template
Source: https://www.latextemplates.com/template/kaobook

Use thesis templates

Classic thesis template
Source:
https://www.overleaf.com/latex/templates/classic-thesis-style-v4-dot-2-by-andre-miede/dwgtvykzvdtk

Use thesis templates

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TEST CHAPTER

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

...ON

...dolor sit amet, consectetuer adipiscing elit. ...vestibulum ut, placerat ac, adipiscing vitae, ...ur dictum gravida mauris. Nam arcu libero, ...t, consectetuer id, vulputate a, magna. Donec ...e eu neque. Pellentesque habitant morbi tris-

tique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Classic thesis template
Source:
https://www.overleaf.com/latex/templates/classic-thesis-style-v4-dot-2-by-andre-miede/dwgtvykzvdtk

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Use thesis templates

Tufte book template
Source:
https://www.latextemplates.com/template/tufte-style-book

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Use thesis templates

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Tufte book template
Source:
https://www.latextemplates.com/template/tufte-style-book

The Design of Tufte's Books

THE PAGES of a book are usually divided into three major sections: the front matter (also called preliminary matter or prelim), the main matter (the core text of the book), and the back matter (or end matter).

THE FRONT MATTER of a book refers to all of the material that comes before the main text. The following table shows a list of material that appears in the front matter of *The Visual Display of Quantitative Information*, *Envisioning Information*, *Visual Explanations*, and *Beautiful Evidence* along with its page number. Page numbers that appear in parentheses refer to folios that do not have a printed page number (but they are still counted in the page number sequence).

	Books			
Page content	VDQI	EI	VE	BE
Blank half title page	(1)	(1)	(1)	(1)
Frontispiece[2]	(2)	(2)	(2)	(2)
Full title page	(3)	(3)	(3)	(3)
Copyright page	(4)	(4)	(4)	(4)
Contents	(5)	(5)	(5)	(5)
Dedication	(6)	(7)	(7)	7
Epigraph	–	–	(8)	–
Introduction	(7)	(9)	(9)	9

[2] The contents of this page vary from book to book. In *VDQI* this page is blank; in *EI* and *VE* this page holds a frontispiece; and in *BE* this page contains three epigraphs.

The front matter in Tufte's books varies slightly from the design of front matter. First, the pages in front matter are numbered with lowercase roman numerals (*e.g.*, i, ...), and, the front matter page numbering sequence is usually separate from the main matter page numbering. That is, the page numbers restart at 1 when the main matter begins. In contrast, Tufte has enumerated his pages with arabic numerals that share the same page counting sequence as the main matter.

There are also some variations in design across Tufte's four books. The page opposite the full title page (labeled "frontispiece" in the above table) has different content in each of the books. In *The Visual Display of Quantitative Information*, this page is blank; in *Envisioning Information* and *Visual Explanations*, this page holds a frontispiece; and in *Beautiful Evidence*, this page contains three epigraphs.

The dedication appears on page 6 in *VDQI* (opposite the introduction), and is placed on its own spread in the other books. In *VE*, an epigraph shares the spread with the opening page of the introduction.

None of the page numbers (folios) of the front matter are expressed except in *BE*, where the folios start to appear on the dedication page.

THE FULL TITLE PAGE of each of the books varies slightly in design. In all the books, the author's name appears at the top of the page, the title it set just above the center line, and the publisher is printed along the bottom margin. Some of the differences are outlined in the following table.
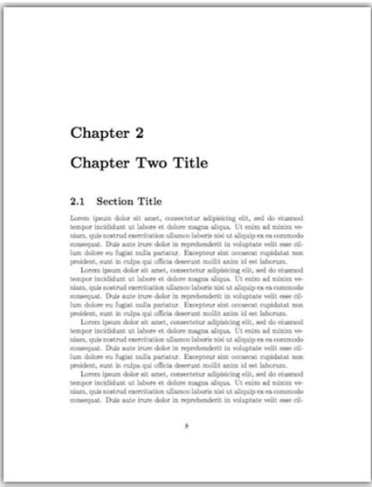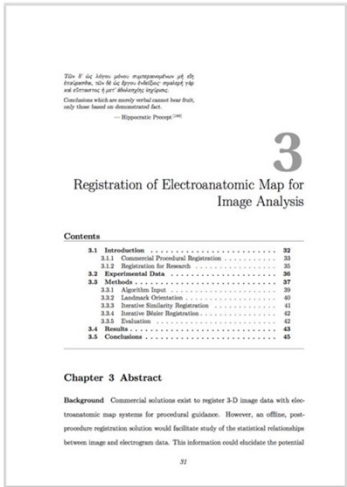
Feature	VDQI	EI	VE	BE
Author				
Typeface	serif	serif	serif	sans serif
Style	italics	italics	italics	upright, caps
Size	24 pt	20 pt	20 pt	20 pt
Title				
Typeface	serif	serif	serif	sans serif
Style	upright	italics	upright	upright, caps
Size	36 pt	48 pt	48 pt	36 pt
Subtitle				
Typeface	–	–	serif	–
Style	–	–	upright	–
Size	–	–	20 pt	–
Edition				
Typeface	sans serif	–	–	–
Style	upright, caps	–	–	–
Size	14 pt	–	–	–
Publisher				
Typeface	serif	serif	serif	sans serif
Style	italics	italics	italics	upright, caps
Size	14 pt	14 pt	14 pt	14 pt

THE TABLES OF CONTENTS in Tufte's books give us our first glimpse of the structure of the main matter. *The Visual Display of Quantitative Information* is split into two parts, each containing some number of chapters. His other three books only contain chapters—they're not broken into parts.

Different Options to change the look of your thesis

- Use packages in your thesis file

- Create your own thesis class

- Find templates which do the work for you

Thanks

for your attendance

Next Coffee Lectures, slides and screencasts:

http://bib.unibe.ch/scimed

**Research Support Services
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support_med.ub@unibe.ch

Thanks

for your attendance

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UNIVERSITÄT BERN

Now there is time for...

Questions & Discussion

Research Support Services
Science and Medical Libraries
University Library Bern
frnat.ub@unibe.ch
support_med.ub@unibe.ch