universität innsbruck

Fakultät für Technische Wissenschaften

The Title of my Thesis Plus Some Text to Exceed a Single Line and Maybe Even Long Enough to Produce Three Lines (but not More!)[1]

Template for preparing Master Theses at the Faculty of Engineering Sciences, University of Innsbruck[2]

Bettina Mayer, BSc

Innsbruck, February 24, 2025

Masterarbeit

eingereicht an der Leopold-Franzens-Universität Innsbruck, Fakultät für Technische Wissenschaften zur Erlangung des akademischen Grades

Diplomingenieurin

Diese Masterarbeit ist der Vertiefungsrichtung „Energieeffiziente Gebäude" des Masterstudiums Umweltingenieurwissenschaften zugeordnet.[3]

Über Antrag der Studierenden wurde der Ausschluss der Benützung der Masterarbeit gemäß § 86 Abs. 4 UG bis zum 1. Jänner 2020 genehmigt.[4]

Beurteilerin:[5]
Univ.-Prof. Dr. Anke Bockreis
Institut für Infrastruktur
Arbeitsbereich für Umwelttechnik

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[1] Title and subtitle in English if text is written in English. Remaining parts of titlepage must be in German!

[2] Subtitle is optional.

[3] Only applicable to MA Bau- or Umweltingenieurwissenschaften. "Vertiefungsrichtung" according to curriculum.

[4] Compulsory, if exclusion from use has been approved of. Otherwise not permitted.

[5] Evaluator is advisor of master thesis. Co-advisor must not act as evaluator.

Betreuerin:[6]	Univ.-Prof. Dr. Anke Bockreis, Universität Innsbruck,
	Institut für Infrastruktur, Arbeitsbereich für Umwelttechnik
Mitbetreuer:[7]	Univ.-Prof. Dr. Manfred Husty, Universität Innsbruck,
	Institut für Grundlagen der Technischen Wissenschaften,
	Arbeitsbereich für Geometrie und CAD

Formal Structure of a Master Thesis

This master thesis is to be printed two-sided. New chapters start on a new page.

- The master thesis is structured as follows:
  - Page 1: Titlepage
  - Page 2: Betreuer/in (equals Evaluator), Mitbetreuer/in (if applicable; at most one)
  - Page 3: Acknowledgment (optional)
  - Page 4: Kurzfassung (in German!)
  - Page 5: Abstract (in English!)
- This is followed by:
  - Table of Contents
  - List of Figures (optional)
  - List of Tables (optional)
  - First Chapter
  - …
  - Last Chapter
  - Bibliography (numeric citation style as in this template is not obligatory; you may also use an author-year style)
  - Appendix (if necessary)
  - Last page: Verpflichtungs- und Einverständniserklärung (in German!)

Electronic Submission

For electronic submission the thesis is to be converted into pdf-format. It is required that this file is not password protected!

Using the LaTeX Template

The LaTeX template is based on the KOMA-script bundle. You may use configuration options of this group of classes to customize the look of your thesis.

Markus Kohm. *KOMA-Script*. Edition DANTE. Lehmanns Media, Berlin, 7. Auflage, 2020, ISBN 978-3-96543-097-6. Print Ausgabe.
`https://komascript.de/ mkohm/scrguide.pdf`.

Short description of class options

uni: Options are `LFUI` or `UMIT`.

type: Options are `BA` (Bachelor), `MA` (Master), or `PhD` (PhD).

lang Options are `english` or `german`.

study Options are `BauUmwelt` (Bau und Umweltingenieurwissenschaften), `Bau` (Bauingenieurwissenschaften), `Umwelt` (Umweltingenieurwissenschaften), `Mech` (Mechatronik), `Elek` (Elektrotechnik), or `Doktorat` (Doktorat Technische Wissenschaften).

specialization Options are

- BBP (Baustoffe, Baubetrieb und Projektmanagement)
- KIB (Konstruktiver Ingenieurbau)
- MOS (Modellierung und Simulation)
- EEG (Energieeffiziente Gebäude)
- GVW (Geotechnik, Vermessung und Wasserbau)
- UVW (Umwelttechnik und Verkehrswesen)

This option only has an effect for the Master programs Bauingenieurwissenschaften or Umweltingenieurwissenschaften.

expose Options are `false` and `true`. Default is is `false`. Can be used for all sorts of exposés (BA, MA, PhD).

explanation Options are `false` and `true`. Set to `false` for final version!

```
\documentclass[
uni=LFUI,
type=MA,
lang=english,
study=Mech,
% specialization=BBP,
% expose=false,
% explanation=false,
]{ftwthesis}
```

Exclusion from use ("Sperre")

If the exclusion from use ("Sperre") has been approved of, the end of blocking period must be given via the command `\publicafter{}`. If the exclusion from use has not been applied for or has not been granted, this command must not be used.

Acknowledgment

Optional. If not needed, just delete or leave empty.

Kurzfassung

Kurzfassung Ihrer Arbeit in deutscher Sprache. Verpflichtend!

Abstract

Abstract of your thesis in English. Compulsory!

Contents

List of Figures

List of Tables

1 Information on this Class

The documentclass `ftwthesis` is based on the KOMA-script class bundle by Markus Kohm, see [1]. You may use the configuration option of this class to change the layout of your thesis.

2 Heading at Level 0 (chapter)

2.1 Heading at Level 1 (section)

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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2.1.1 Heading at Level 2 (subection)

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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Heading at Level 3 (subsubsection)

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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Heading at Level 4 (paragraph) Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should

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2.2 Lists

Example of a List (itemize)

- First item in a list
- Second item in a list
- Third item in a list
- Fourth item in a list
- Fifth item in a list

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Example of a List (4 * itemize)

- First item in a list
  - First item in a list
    - First item in a list
      - First item in a list
      - Second item in a list
      - Third item in a list
      - Fourth item in a list

· Fifth item in a list
  ∗ Second item in a list
  ∗ Third item in a list
  ∗ Fourth item in a list
  ∗ Fifth item in a list
– Second item in a list
– Third item in a list
– Fourth item in a list
– Fifth item in a list
- Second item in a list
- Third item in a list
- Fourth item in a list
- Fifth item in a list

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Example of a List (enumerate)

1. First item in a list
2. Second item in a list
3. Third item in a list
4. Fourth item in a list
5. Fifth item in a list

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Example of a List (4 * enumerate)

1. First item in a list
   a) First item in a list
      i. First item in a list
         A. First item in a list
         B. Second item in a list

              C. Third item in a list
              D. Fourth item in a list
              E. Fifth item in a list
           ii. Second item in a list
          iii. Third item in a list
          iv. Fourth item in a list
           v. Fifth item in a list
       b) Second item in a list
       c) Third item in a list
       d) Fourth item in a list
       e) Fifth item in a list

2. Second item in a list
3. Third item in a list
4. Fourth item in a list
5. Fifth item in a list

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Example of a List (description

First item in a list
Second item in a list
Third item in a list
Fourth item in a list
Fifth item in a list

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Figure 2.1: Logo of the University of Innsbruck (example of a figure)

Table 2.1: Multiplication table for quaternions (example of a table)

	1	$\mathbf{i}$	$\mathbf{j}$	$\mathbf{k}$
1	1	$\mathbf{i}$	$\mathbf{j}$	$\mathbf{k}$
$\mathbf{i}$	$\mathbf{i}$	-1	$\mathbf{k}$	$-\mathbf{j}$
$\mathbf{j}$	$\mathbf{j}$	$-\mathbf{k}$	-1	$\mathbf{i}$
$\mathbf{k}$	$\mathbf{k}$	$\mathbf{j}$	$-\mathbf{i}$	-1

2.3 Frequently Asked Questions

Eine bereits verwendete Vorlage für Abschlussarbeiten funktioniert nicht mehr.

Eine mögliche Ursache ist der Wechsel der zugrunde liegenden Dokumentklasse von `memoir` auf `KOMA-Script` mit Version 2.0 (Sommer 2022).

Wie kann ich den Satzspiegel ändern?

Der durch die Klasse vorgegebene Satzspiegel hat historische Gründe, ist aus typographischer Sicht nicht optimal und sollte geändert werden. Er kann zum Beispiel mit Hilfe des Pakets `geometry` einfach angepasst werden. Allerdings benötigt es Geschmack und Expert:innenwissen, um zu einer guten Einstellung zu gelangen. Eine einfachere Methode, die im Normalfall zu guten Ergebnissen führt, besteht im Aufruf von `\typearea[BCOR]{DIV}` in der Dokumentpräambel. Dabei ist `BCOR` eine Länge zur Bindekorrektur für die gedruckte Version Ihrer Arbeit (`0mm`, falls Ihre Arbeit nicht gedruckt wird) und `DIV` ein natürliche Zahl, zum Beispiel

```
\typearea[8mm]{12}
```

[1]. Beachten Sie, dass Masterarbeiten und Dissertationen im Normalfall doppelseitig gedruckt werden. Deshalb werden dort ein innerer und ein äußerer Rand unterschieden.

Eine lange Kapitelüberschrift verursacht Probleme mit dem Zeilenumbruch in der Kopfzeile.

Geben Sie eine optionale Kurzversion der Kapitelüberschrift an:

```
\chapter[Kurze Kapitel\"uberschrift]{Eine laaaaaaaaaaaaange
Kapitel\"uberschrift, die Probleme mit dem Zeilenumbruch verursacht}
```

Beachten Sie, dass die Kurzversion auch in Inhaltsverzeichnis aufscheint.

Wie soll ich Artikel in meine kumulative Dissertation einbinden?

Verwenden Sie das Paket `pdfpages`:

```
\usepackage{pdfpages}
...
\includepdf[pages=-]{mein-artikel.pdf}
```

Eventuell wollen Sie diesen Artikel auch ins Inhaltsverzeichnis aufnehmen:

```
\includepdf[pages=-,%
    pagecommand={%
        \phantomsection%
        \addcontentsline{toc}%
                        {section}%
                        {Titel f\"ur das Inhaltsverzeichnis}}]%
    {mein-artikel.pdf}
```

Das Literaturverzeichnis ist Deutsch obwohl meine Dokumentsprache English ist!

Dieses Verhalten tritt auf, wenn Sie ein Exposé in englischer Sprache schreiben und zum Erzeugen des Literaturverzeichnisses das Paket `biblatex` verwenden. Ein Workaround ist, direkt nach `\begin{document}` den Befehl `\selectlanguage{english}` einzufügen.

Bibliography

[1] Markus Kohm. *KOMA-Script*. Edition DANTE. Lehmanns Media, Berlin, 7 edition, 2020. ISBN 978-3-96543-097-6.

Verpflichtungs- und Einverständniserklärung

Ich erkläre hiermit an Eides statt durch meine eigenhändige Unterschrift, dass ich die vorliegende Arbeit selbständig verfasst und keine anderen als die angegebenen Quellen und Hilfsmittel verwendet habe. Alle Stellen, die wörtlich oder inhaltlich den angegebenen Quellen entnommen wurden, sind als solche kenntlich gemacht.

Die vorliegende Arbeit wurde bisher in gleicher oder ähnlicher Form noch nicht als wissenschaftliche Arbeit eingereicht.

Innsbruck am . . . .

Bettina Mayer, BSc