

## **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!)**<sup>1</sup>

Template for preparing Bachelor Theses in Mechatronics at UNITI TIROL<sup>2</sup>

Bettina Mayer, BSc

Hall in Tirol, February 24, 2025

### Bachelorarbeit

verfasst im Rahmen eines gemeinsamen Bachelorstudienprogramms von LFUI und UNITI TIROL – Joint Degree Programme

eingereicht an der UNITI TIROL – Privatuniversität für Gesundheitswissenschaften und -technologie, Department für Biomedizinische Informatik und Mechatronik zur Erlangung des akademischen Grades

### Bachelor of Science

Beurteilerin:<sup>3</sup>

Univ.-Prof. Dr. Frank Woittennek

Institut für Automatisierungs- und Regelungstechnik

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<sup>1</sup>Title and subtitle in English if text is written in English. Remaining parts of titlepage must be in German!

<sup>2</sup>Subtitle is optional.

<sup>3</sup>Evaluator is instructor of lecture in which bachelor thesis is written.

## Formal Structure of a Bachelor Thesis

This bachelor thesis is to be printed one-sided.

- The bachelor thesis is structured as follows:
  - Page 1: Titlepage
  - Page 2: Acknowledgment (optional)
  - Page 3: Kurzfassung (in German!)
  - Page 4: 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 (optional)
  - 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=UMIT,
type=MA,
lang=english,
study=Mech,
% specialization=BBP,
% expose=false,
% explanation=false,
]{ftwthesis}
```

## **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                                     | 7         |
| <b>Contents</b>                              |           |
| <b>List of Figures</b>                       | <b>8</b>  |
| <b>List of Tables</b>                        | <b>9</b>  |
| <b>1 Information on this Class</b>           | <b>10</b> |
| <b>2 Heading at Level 1 (section)</b>        | <b>10</b> |
| 2.1 Heading at Level 2 (subection) . . . . . | 10        |
| Heading at Level 3 (subsubsection) . . . . . | 11        |
| <b>3 Lists</b>                               | <b>12</b> |
| <b>4 Frequently Asked Questions</b>          | <b>16</b> |
| <b>References</b>                            | <b>17</b> |

**List of Figures**

|   |                                                         |    |
|---|---------------------------------------------------------|----|
| 1 | Logo of the UMIT TIROL (example for a figure) . . . . . | 15 |
|---|---------------------------------------------------------|----|



**List of Tables**

|   |                                                                     |    |
|---|---------------------------------------------------------------------|----|
| 1 | Multiplication table for quaternions (example of a table) . . . . . | 15 |
|---|---------------------------------------------------------------------|----|

## 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 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 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)**

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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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### 3 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 1: Logo of the UMIT TIROL (example for a figure)

Table 1: Multiplication table for quaternions (example of a table)

|   | 1 | i  | j  | k  |
|---|---|----|----|----|
| 1 | 1 | i  | j  | k  |
| i | i | -1 | k  | -j |
| j | j | -k | -1 | i  |
| k | k | j  | -i | -1 |

## 4 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 eine 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\"überschrift]{Eine laaaaaaaaaaaaaange  
Kapitel\"überschrift, 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.

### **References**

- [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.

Hall in Tirol am .....

Bettina Mayer, BSc