



**POLITECNICO**  
**MILANO 1863**

**SCUOLA DI INGEGNERIA INDUSTRIALE  
E DELL'INFORMAZIONE**

# **polimi-thesis manual**

Doctoral Dissertation of:  
**Vittorio Robecchi**

Advisor: Prof. Mario Rossi

Co-advisors: Proff. Giovanni Cerva, Guglielmo Varchi

Tutor: Prof. Minto Zelante

Academic Year 2024-25 – XXV Cycle

The Chair of the Doctoral Program: Prof. Filippo Sedia



# Contents

<b>Contents</b>	<b>iii</b>
<b>List of Figures</b>	<b>v</b>
<b>List of Tables</b>	<b>vii</b>
<b>Nomenclature</b>	<b>ix</b>
<b>1 Chapter one</b>	<b>1</b>
1.1 Sections and subsection . . . . .	1
1.2 Equations . . . . .	1
1.3 Figures, Tables and Algorithms . . . . .	2
1.3.1 Figures . . . . .	2
1.3.2 Tables . . . . .	2
1.3.3 Algorithms . . . . .	3
1.4 Theorems, propositions and lists . . . . .	4

1.5 Plagiarism . . . . .	4
1.6 Bibliography and citations . . . . .	5
<b>Bibliography</b>	<b>7</b>

# List of Figures

1.1	Caption in the List of Figures..	2
1.2	A figure composed of two sub figures, similar to <code>\subfloat{}</code> ..	2



# List of Tables

1.1 Caption of the Table to appear in the List of Tables.. . . . . 2





# Nomenclature

*POLIMI* Politecnico di Milano

*CDL* Corso di Laurea

*CCS* Consigli di Corsi di Studio

*CFU* Crediti Formativi Universitari



# 1 | Chapter one

In this section there will be useful information about how to style chapters, sections and so on. Be sure to read the [Typst](#) guide for  $\text{\LaTeX}$  users [1].

In  $\text{\LaTeX}$ , the canonical sections division is as follows:

```
\chapter{}
\section{}
\subsection{}
\subsubsection{}
```

in [Typst](#), there are just headings [2] (similar to Markdown) – so the  $\text{\LaTeX}$  system maps to:

```
= Chapter           // Heading level 1
== Section          // Heading level 2
=== Subsection      // Heading level 3
==== Subsubsection  // Heading level 4
```

If you need to turn off the numbering you will call the `heading` function:

```
#heading("Heading title", level: n, numbering: none)
```

In  $\text{\LaTeX}$ , there are many environments (`equation`, `equation*`, `aligned`) – in [Typst](#) there is just the `equation` environment called with dollars [3]:

- Inline math, same as  $\text{\LaTeX}$ :

$$\text{\$}a^2 + b^2 = c^2\text{\$}$$

$$a^2 + b^2 = c^2$$

- Block math, by adding whitespaces before and after the content:

$$\text{\$ } a^2 + b^2 = c^2 \text{\$}$$

$$a^2 + b^2 = c^2$$

Now a more complex equation:

$$\begin{cases} \Delta \cdot \boldsymbol{D} &= \rho, \\ \Delta \times \boldsymbol{E} + \frac{\partial \boldsymbol{B}}{\partial t} &= 0, \\ \Delta \cdot \boldsymbol{B} &= 0, \\ \Delta \times \boldsymbol{H} - \frac{\partial \boldsymbol{D}}{\partial t} &= \boldsymbol{J}. \end{cases}$$

By default, the equations are **not** numbered – however if you need to:

$$\begin{cases} \Delta \cdot \boldsymbol{D} = \rho, \\ \Delta \times \boldsymbol{E} + \frac{\partial \boldsymbol{B}}{\partial t} = 0, \\ \Delta \cdot \boldsymbol{B} = 0, \\ \Delta \times \boldsymbol{H} - \frac{\partial \boldsymbol{D}}{\partial t} = \boldsymbol{J}. \end{cases} \quad (1)$$

And to reference it just type Equation 1.

Via the `figure` environment [4], as you would do in  $\text{\LaTeX}$ :



Figure 1.1: Caption in the List of Figures.

However, since **Typst** does not *natively* support subfigures (see related issue), the packages `smartaref` [5] and `hallon` [6] have been integrated:



(a) Left Polimi logo.



(b) Right Polimi logo.

Figure 1.2: A figure composed of two sub figures, similar to `\subfloat{}`.

You can reference either the main Figure 1.2; or a single subfigure: Figure 1.2a, or Figure 1.2b.

	Column 1	Column 2	Column 3
row 1	1	2	3

	Column 1	Column 2	Column 3
row 2	$\alpha$	$\beta$	$\gamma$
row 3	alpha	beta	gamma

Table 1.1: Caption of the Table to appear in the List of Tables.

As you can see, it could be useful to implement a default style for every table [7].

For algorithms, there are a lot of packages on [Typst](#) universe [8]. The following are my recommendations.

- `lovelace` [9]

Algorithm 1.1: My cool algorithm

```
1 Initial instructions
2 for for – condition do
3   | Some instructions
4   | if if – condition then
5   |   Some other instructions
6   | end if
7 end for
8 while while – condition do
9   | Some further instructions
10 end while
11 Final instructions
```

See Algorithm 1.1.

- `algo` [10]

Name of Algorithm

```

1  Initial instructions
2  for for – condition do
3      Some instructions
4      if if – condition then
5          Some other instructions
6      end if
7  end for
8  while while – condition do
9      Some further instructions
10 end while
11 Final instructions

```

**Theorem 1.1.** *Write here your theorem.*

**Proposition 1.1.** *Write here your proposition.*

*Proof.* If useful you can report here the proof. □

Powered by [11].

Normal list:

- First item
- Second item

Numbered list:

1. First item
2. Second item

You have to be sure to respect the rules on Copyright and avoid an involuntary plagiarism. It is allowed to take other persons' ideas only if the author and his original work are clearly mentioned. As stated in the Code of Ethics and Conduct, Politecnico di Milano promotes the integrity of research, condemns manipulation and the infringement of intellectual property, and gives opportunity to all those who carry out research activities to have an adequate training on ethical conduct and integrity while doing research. To be sure to respect the copyright rules, read the guides on Copyright legislation and citation styles available at:

<https://www.biblio.polimi.it/en/tools/courses-and-tutorials>

You can also attend the courses which are periodically organized on “Bibliographic citations and bibliography management”.

Your thesis must contain a suitable Bibliography which lists all the sources consulted on developing the work. The list of references is placed at the end of the manuscript after the chapter containing the conclusions. We suggest to use the BibTeX package [12] and save the bibliographic references in the file `Thesis_bibliography.bib`. This is indeed a database containing all the information about the references.

To cite in your manuscript, use the `cite` [13] command as follows:

*Here is how you cite bibliography entries: [14] or chained [15], [16].*

As it would have been in L<sup>A</sup>T<sub>E</sub>X, the bibliography [17] is automatically generated.





# Bibliography

- [1] “**Typst** L<sup>A</sup>T<sub>E</sub>X migration guide.” [Online]. Available: <https://typst.app/docs/guides/guide-for-latex-users/>
- [2] “**Typst** Headings Documentation.” [Online]. Available: <https://typst.app/docs/reference/model/heading/>
- [3] “**Typst** Equation Documentation.” [Online]. Available: <https://typst.app/docs/reference/math/equation/>
- [4] “**Typst** Figure Documentation.” [Online]. Available: <https://typst.app/docs/reference/model/figure/>
- [5] “Smartref Documentation.” [Online]. Available: <https://typst.app/universe/package/smartaref>
- [6] “Hallon Documentation.” [Online]. Available: <https://typst.app/universe/package/hallon>
- [7] “**Typst** Table Guide.” [Online]. Available: <https://typst.app/docs/guides/table-guide/>
- [8] “**Typst** Universe.” [Online]. Available: <https://typst.app/universe>
- [9] “Lovelace Documentation.” [Online]. Available: <https://typst.app/universe/package/lovelace>
- [10] “Algo Documentation.” [Online]. Available: <https://typst.app/universe/package/algo>
- [11] “Great theorems.” [Online]. Available: <https://typst.app/universe/package/great-theorems>
- [12] B. cheat sheet, “BiBTeX Documentation.” [Online]. Available: <https://tug.ctan.org/info/biblatex-cheatsheet/biblatex-cheatsheet.pdf>

- [13] “**Typst** Cite Documentation.” [Online]. Available: <https://typst.app/docs/reference/model/cite/>
- [14] D. E. Knuth, “Computer Programming As an Art,” *Commun. ACM*, pp. 667–673, 1974.
- [15] D. E. Knuth, “Two notes on notation,” *Amer. Math. Monthly*, vol. 99, pp. 403–422, 1992.
- [16] L. Lamport, *TEX: A Document Preparation System*. Pearson Education India, 1994.
- [17] “**Typst** Bibliography Documentation.” [Online]. Available: <https://typst.app/docs/reference/model/bibliography/>