Quanser Qube 2 Report

Authors: Mark Liam, Kevin Ortega, Renzo Ghiringhelli, Alfio Locatelli

|  |  |
| --- | --- |
| Name:  Student ID: | Mark Liam  0000000 |
|  |  |
| Name:  Student ID: | Kevin Ortega  20XX-XX |
|  |  |
| Name:  Student ID: | Rengo Ghiringhelli  20XX-XX |
|  |  |
| Name:  Student ID: | Alfio Locatelli  20XX-XX |

# Contents

[Contents iii](#_Toc166509228)

[Introduction 5](#_Toc166509229)

[1. Chapter one 6](#_Toc166509230)

[1.1 Section and subsection 6](#_Toc166509231)

[1.2 Equations 7](#_Toc166509232)

[1.3 Figures, Tables and Algorithms 8](#_Toc166509233)

[1.3.1 Figures 8](#_Toc166509234)

[1.3.2 Tables 9](#_Toc166509235)

[1.3.3 Algorithms 10](#_Toc166509236)

[1.4 Theorems, propositions and lists 10](#_Toc166509237)

[1.4.1 Theorems 10](#_Toc166509238)

[1.4.2 Proposition 10](#_Toc166509239)

[1.4.3 Lists 10](#_Toc166509240)

[1.5 Use of copyrighted material 11](#_Toc166509241)

[1.6 Plagiarism 11](#_Toc166509242)

[1.7 Bibliography and citations 11](#_Toc166509243)

[2. Conclusion 13](#_Toc166509244)

[Bibliography 15](#_Toc166509245)

# Introduction

This document is intended to be both an example of the Polimi WORD template for Master Theses, as well as a short introduction to its use. It is not intended to be a general introduction to WORD itself, and the reader is assumed to be familiar with the basics of creating and compiling WORD documents.

For nay doubt refer to: <https://support.microsoft.com/en-us/office>

Use the English version of Word.

To see properly the format, use the “*Paragraph mark* (Paragraph Show / Hide button in Word)”.

The cover page of the thesis must contain all the relevant information: title of the thesis, name of the Study Programme and School, name of the author, student ID number, name of the supervisor, name(s) of the co-supervisor(s) (if any), academic year. Be sure to select a title that is meaningful. It should contain important keywords to be identified by indexer. Keep the title as concise as possible and comprehensible even to people who are not experts in your field. The title has to be chosen at the end of your work so that it accurately captures the main subject of the manuscript.

Since a thesis might be a substantial document, it is convenient to break it into chapters. Be sure to be confident with “*Style*” and “*Section breaks*”. Chapters titles are identified by the “*Heading 1*” and numbered by “*Multilevel list*” and “*Numbering*”.

To start a new chapter, end the previous one with “*Section breaks-odd page*”.

The header of the first page of the chapter is different from the even and from the odd page of the chapter itself. In the header, a two rows-table (with no-borders) is present: the header in the first page contains the page number (*Insert-Header-Page number*) on the right; the even page contains the page number on the left and the chapter title on the right (*Insert-Quick Parts-Field-StyleRef-Heading 1 and Paragraph Number*).

Chapter title color corresponds to the HEX: #728FA5.

# Chapter one

In this chapter additional useful information are reported.

## Section and subsection

Chapters are typically subdivided into sections and subsections, and, optionally, subsubsections, paragraphs and subparagraphs. All can have a title, but only sections and subsections are numbered. A new section is created by “*Heading 2*” the sub-sections are created by “*Heading 3*” and so on. To number or not the section: *Multilevel list*” and “*Numbering*”.

## Equations

This section gives some examples of writing mathematical equations in your thesis.

Maxwell’s equations read:

|  |  |  |
| --- | --- | --- |
|  |  | (1.1a) |
| (1.1b) |
| (1.1c) |
| (1.1d) |

The equations must be labeled and cited in the text, such as Equation (1.1a), Equation (1.1b), Equation (1.1c) and Equation (1.1d) need to be cited in the text. To automatically name the equations and to cite them use “*References, Insert Caption and Cross Reference*”.

The following Equations (1.2), (1.3), (1.4) and (1.5) show the same equation as before, with multiple global references rather than sub-references and without brace:

|  |  |  |
| --- | --- | --- |
|  |  | (1.2) |
|  | (1.3) |
|  | (1.4) |
|  | (1.5) |

Equation (1.6) is the same as before, but with just one label:

|  |  |  |
| --- | --- | --- |
|  |  | (1.6) |

## Figures, Tables and Algorithms

Figures, Tables and Algorithms have to contain a Caption that describe their content, and have to be properly reffered in the text.

### Figures

Insert a High-definition image and take care about “*Wrap*” and “*Anchor*” to avoid text sliding. You can also insert the image in a one-row table with no-borders.

Remember to cite the Figure 1.1 using “*References-Cross reference-Figure*” after having insert the caption “*References-Insert caption-Figure*”.



Figure 1.1: Polimi logo.

The color of the caption is HEX: #728FA5

Figures can also contain multiple sub-figures (better use no-border table) with their own caption and label, e.g. Figure 1.2a and Figure 1.2b.

|  |  |
| --- | --- |
| (a) One PoliMi logo. | (b) Another PoliMi logo. |

Figure 1.2: This is a very long caption that you don’t want to be displayed on the List of Figures.

### Tables

In the following examples of tables are reported. Remember to label and to cite them such as in Table 1.1. Cell color HEX #8EA5B6.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **column1** | **column2** | **column3** |
| **row1** | 1 | 2 | 3 |
| **row2** | α | β | γ |
| **row3** | alpha | beta | gamma |

Table 1.1: Caption to be displayed in List of Tables.

You can also consider to highlight selected columns or rows in order to make tables more readable (Table 1.2 and Table 1.3).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **column1** | **column2** | **column3** | **column4** | **column5** | **column6** |
| **row1** | 1 | 2 | 3 | 4 | 5 | 6 |
| **row2** | a | b | c | d | e | f |
| **row3** | α | β | γ | δ | φ | ω |
| **row4** | alpha | beta | gamma | delta | phi | omega |

Table 1.2: Highlighting the columns.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **column1** | **column2** | **column3** | **column4** | **column5** | **column6** |
| **row1** | 1 | 2 | 3 | 4 | 5 | 6 |
| **row2** | a | b | c | d | e | f |
| **row3** | α | β | γ | δ | φ | ω |
| **row4** | alpha | beta | gamma | delta | phi | omega |

Table 1.3: Highlighting the rows.

### Algorithms

Pseudo-algorithms can be reported as in Algorithm 1.

|  |  |
| --- | --- |
| **Algorithm 1** Name of the 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 |

## Theorems, propositions and lists

### Theorems

Theorems have to be formatted as:

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

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

### Proposition

Propositions have to be formatted as:

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

### Lists

How to insert itemized lists:

* first item;
* second item;
* third item.

How to insert numbered lists:

1. first item;
2. second item;
3. third item.

## Use of copyrighted material

Each student is responsible for obtaining copyright permissions, if necessary, to include published material in the thesis. This applies typically to third-party material published by someone else.

## Plagiarism

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".

## Bibliography and citations

Your thesis must contain a suitable Bibliography which lists all the sources used or 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 using *Mendeley* integrated in Word.

*Here is how you cite bibliography entries: [2], or multiple ones at once: [3, 5].*

The bibliography and list of references are generated automatically by running *Mendeley.*

# Conclusion

A final chapter containing the main conclusions of your research/study and possible future developments of your work have to be inserted in this chapter.

# Bibliography

[1] D. E. Knuth. Computer programming as an art. *Commun. ACM*, pages 667-673, 1974.

[2] D. E. Knuth.Two notes on notation. *Amer Math, Monthly*, 99:403-422, 1992.

[3] L. Lamport. *LaTeX: A Document Preparation System*. Pearson Education India, 1994.

[4] URL <https://ctan.org/topic/bibtex-doc>.

[5] T. Oetiker, H. Partl, I. Hyna, and E. Schlegl. The not so short introduction to latex2. *Electronic document available at http://www. tex. ac. uk/tex-archive/info/lshort, 1995.*