Full Title of the Thesis, as Approved by the Board of Studies, which Should Describe the Contents Accurately and Concisely

Full Names of the Author

Qualification for which the Thesis is Submitted

CITY UNIVERSITY
LONDON

Institution to which the Thesis is Submitted

Department in which the Research was Conducted

Month and Year of Submission

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Acknowledgements

I want to express my most sincere gratitude and recognition to all those anonymous persons around the world who generously share their knowledge, giving their time and effort to the community without expecting any reward. Without them, I would not have been able to develop this template and many other projects.

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Declaration

The present work is intended to be a base for a City University PhD dissertation latex template. Although it is ready to be used as it is, obtaining a suitable PhD dissertation which will fulfil the university requirements, many improvements can be done on it. All the users of this template are encouraged to share their modifications and improvements so a better template can be developed collaboratively.

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Abstract

In this work, the City University's Senate Regulation 25 (Anon. 2015) has been followed in order to obtain a LaTeX template providing the adequate format for a City University PhD dissertation.

Chapter 1

Introduction

The present document is a LaTeX template for the writing up of a PhD thesis at City University London. It fulfils all the requirements established by the senate regulation 25 (Anon. 2015) and it is intended to allow the student to start the writing up straight away without worrying about the thesis format.

Although the document obtained with this template satisfies all the university requirements for the thesis submission, it is recommended to make some test and print some example page before starting with the writing up process in order to be sure that the outcome satisfies the student. Once the full thesis is written, modifying different configurations such as the font, its size or the margins will produce undesirable effects on the floating objects' positions relative to the text.

The typographical details of this template are summarized as follows:

a The size of paper used is international A4.

b The thesis is printed on both sides of the paper.

c Chapters always start on the right hand side page.

d The margins are defined as:

inner	=	4cm
outer	=	3cm
top	=	2.5cm
bottom	=	3cm

e Page numbers are located centrally at the bottom of the page, at 1.5cm above the edge.

f The font is the 'Computer Modern' standard font of the document class chosen for the thesis (book class).

g The line spacing is 1.5.

h The font normal size is set as 11pt.

The senate regulation 25 establishes a minimum character size of 8pt. Figure 1.1 can be used to determine the font size to be used in the different cases.

Command	10pt	11pt	12pt
\tiny	5	6	6
\scriptsize	7	8	8
\footnotesize	8	9	10
\small	9	10	10.95
\normalsize	10	10.95	12
\large	12	12	14.4
\Large	14.4	14.4	17.28
\LARGE	17.28	17.28	20.74
\huge	20.74	20.74	24.88
\Huge	24.88	24.88	24.88

Figure 1.1: Different font sizes depending on the chosen normal size

Neither headers nor footers are included in this template. However, if the student wants to include them, he/she is refereed to the 'fancyhdr' package documentation (van Oostrum 2004).

What follows is the 'Loren ipsum' text in order to provide a clear preview of the page layout:

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Chapter 2

Some Basics

Although this template is not intended to be a LaTeX tutorial, in this chapter some basic functionalities of the LaTeX language are shown.

2.1 Sections subsections and subsubsections

You can divide your chapter in different sections.

2.1.1 A subsection inside the section

Each section can be divided in subsection

A subsubsection inside the subsection inside the section

The lower lever is the *subsubsection*.

2.2 Tables and Figures

	1st colum	2nd colum	3rd colum	4th colum
1st row	$data_{1,1}$	$data_{1,2}$	$data_{1,3}$	$data_{1,4}$
2nd row	$data_{2,1}$	$data_{2,2}$	$data_{2,3}$	$data_{2,4}$

Table 2.1: This is the long legend of the table example. This legend does not appear in the list of tables.

Both tables and figures are floating objects. They can have both short and long captions. The short caption is used in either the list of tables or the list of figures. The long caption is placed along with the table in the main body of the

document. Tables and figures can be referenced in the text if a label is included in their definition. Table 2.1 is an example of table whilst Fig. 2.1 shows the City University logo taking a height of 30mm.

Figure 2.1: This is the caption appearing along with the figure. If the short caption is not added, then the full caption will also appear in the list of figures.

Several images can be included in the same figure by means of the *array* package which must be declared in the document's preamble. Figure 2.2a and Fig. 2.2b takes $\frac{1}{4}$ of the line width of the current page. The *\hspace* command is used to introduce a horizontal space between them. Figure 2.2c takes 60% of the text width of the current page. As far as the text is formatted with only one column per page, the text width and the line width represent the same value.
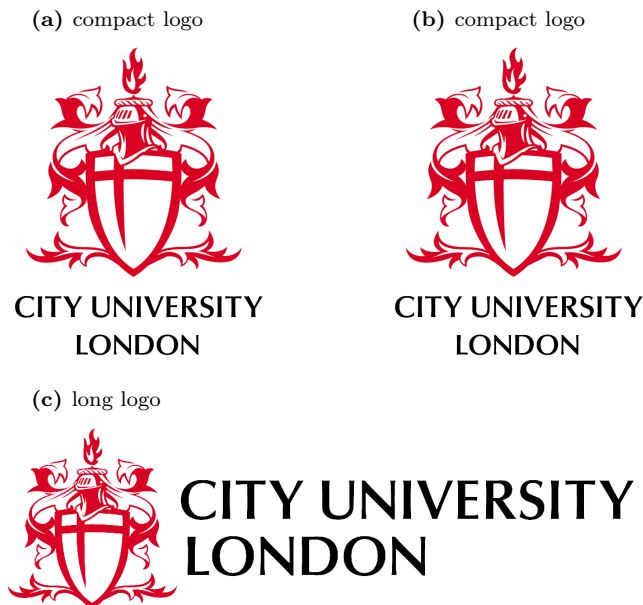
(a) compact logo   **(b)** compact logo

(c) long logo

Figure 2.2: Several images can be included in one figure by means of *\multicolum* and *\multirow* commands.

The figures' format have been defined as .png in the documents preamble. It is recommended to keep this format.

2.3 Equations and mathematical environments

The mathematical environment within a paragraph is started and ended with $ symbol. The relation $e^{i\cdot\pi} - 1 = 0$ can be written in the same text line or in the Eq. 2.1 as follows:

$$e^{i\cdot\pi} - 1 = 0 \tag{2.1}$$

The *eqnarray* environment can be used for list several equation in the same block. Equation 2.2 and Eq. 2.3 are an example of this.

$$x^2 + 3 \cdot y = 0 \tag{2.2}$$

$$5 \cdot x - 2 \cdot y^3 = 7 \tag{2.3}$$

The *displaymath* environment is a different mathematical environment in which the equations are not indexed:

$$c_1^2 + c_2^2 = h^2$$

The mathematical expressions can also be written inside the *tabular* environment:

$$\begin{array}{cc} (a+b)^2 = a^2 + b^2 + 2 \cdot a \cdot b & \\ & (a+b) \cdot (a-b) = a^2 - b^2 \\ (a-b)^2 = a^2 + b^2 - 2 \cdot a \cdot b & \end{array}$$

2.4 User's functions

Different function can be defined by the user in the document's preamble. For instance a $\theta°$ rotation matrix about the z axis can be written by the *zrot* function and the inverse matrix of this rotation can be written by the *zroti* function. Both functions are defined in the userfunction.tex file and make use of the *array* environment.

$$R_z(\theta) = \begin{pmatrix} \cos\theta & -\sin\theta & 0 \\ \sin\theta & \cos\theta & 0 \\ 0 & 0 & 1 \end{pmatrix} ; R_z^{-1}(\theta) = \begin{pmatrix} \cos\theta & \sin\theta & 0 \\ -\sin\theta & \cos\theta & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

If you want to include several multi-figures with the same layout, it may be useful create a function for this purpose. Figure 2.3 is just an example. You can define your own function in the userfunction.tex file.

(a) First sub-figure's caption   **(b)** Second sub-figure's caption

Figure 2.3: Caption of the whole figure

Appendix A

Tittle of the First Appendix

Two possibilities for the appendices are presented in this template. The Appendix A is included in the main matter of the thesis after the $\backslash appendix$ command. This produces that the appendix input in the table of contents is labelled with the corresponding capital letter (in this case 'A'). The text 'Appendix A' will appear on top of the first page of the appendix, above the appendix's title, in case you have given a title to it.

Appendix B

The Appendix B is included in the back matter of the thesis. No $\backslash appendix$ command is used. This produces that the appendix input in the table of contents is not labelled, neither with arabic numbers nor capital letters. The only text that will appear in the appendix title is that written in the $\backslash chapter\{\}$ command brackets. In this cases this is 'Appendix B'.

Contributions

The academic contributions made during the time this research was carried out are listed below:

Surname, N. (2015a), My first conference paper, *in* '1st International conference on my research field (ICRF)', pp. 1–8.

Surname, N. (2015b), 'My first journal paper', *Journal of the field in which I am doing my research* **1**(1), pp. 1–20.

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van Oostrum, P. (2004), 'Phancyhdr package documentation', **url**: http://texdoc.net/texmf-dist/doc/latex/fancyhdr/fancyhdr.pdf.