

# L<sup>A</sup>T<sub>E</sub>Xnotes

frostedmist\*, too much tea

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## 1 Font style and size

Here is a series of font styles:

This is **in bold!** This is *in italics!* This is underlined! This is **a combination!** This is *slanted!* This is IN SMALL CAPS! This is *emphasized depending on the context!*

Here are the default font families:

This is Serif (roman)! This is Sans Serif! This is Typewriter (monospace)!

Here are some font sizes (relative to starting size):

This is tiny! This is small! This is large! I said Large! NO, LARGE!!!  
There we go. Back to normal now.

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\*so done with the world

## 2 Formatting

### Abstract

This is how to format an abstract.

This is a first paragraph.

This is a line break.

This is also a line break.

This centres the text! You can also align it left (flushleft) or right (flushright), or do nothing to leave it justified.

A blank line creates a new paragraph!

The par command also creates a new paragraph!

You can insert horizontal space in text! Like this                      here (all units allowed.) You can also have a break that                      automatically fills all the space available. You can make this pretty by adding a line \_\_\_\_\_or dots .....like this. Useful for signatures and indices!

You can also insert vertical space! Again, you can either specify a distance or let it automatically

fill the space available (will take into account other elements in page). Smallskip, medskip and bigskip are also somewhat dynamic ways to insert vertical space.

### Columns

This is header text on top of the columns. Put whatever you want here but figures/tables.

This text should end up in column one.	This text should end up in column 2.	This text should end up in column 3.
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And would you look at that - it did. Yay.

## Sections hierarchy (commands):

- 1. part: only available in report doc class
- 0. chapter: only available in book doc class
- 1. section
- 2. subsection
- 3. subsubsection
- 4. paragraph
- 5. subparagraph

Any of these can be made unnumbered by adding an \* before the opening curly brace.

Abbreviation	Value
pt	~0.0138 inch or 0.3515 mm
mm	a millimeter
cm	a centimeter
in	an inch
ex	~height of an 'x' in the current font
em	~width of an 'M' in the current font
mu	math unit equal to 1/18 em

Table 1: LaTeX units summary

## Paragraph formatting

By default, the first paragraph of a section or a chapter is not indented.

The second is, and the indent size is defined in the preamble.

All subsequent ones are too.

The noindent command changes this.

This is a paragraph that spans multiple lines that I am using to test the line spacing options. Really there is not that much to see here. Carry on.

### 3 Figures and referencing



Figure 1: me

This will refer to the figure label, Figure 1, while this will refer to the page it is in, Page 4.

You can also refer to a specific section, like Section 3 in which this is.

## 4 Lists and maths

Environments are sections of the document that present themselves in a different way to the rest. These are some of them.

- This is an unordered list
- It uses bullet points
- Text can be of any length

1. This is an ordered list
2. It uses numbers
3. The list number increases with each item

These are ways to write mathematical expressions, inline mode:  $E = mc^2$ ,  $E = mc^2$ ,  $E = mc^2$

These are ways to write mathematical expressions, display mode:

$$E = mc^2 \tag{1}$$

$$E = mc^2$$

$$E = mc^2$$

Like everything else, display mode mathematical equations can be referenced, e.g. equation 1. Unnumbered equations can also be referenced by number but cannot be easily recognised.

## 5 Tables

Col1	Col2	Col2
A	23	10000
B	2	66
C	5	58

Table 2: Fancy table

The table can then be referred to as Table 2 on Page 6.

## 6 Colours

The `xcolour` package allows to colour things. The basic colours it supports are (white), black, red, green, blue, cyan, magenta, and yellow.

Adding `dvipsnames` to the package in the preamble allows you to name a few more, like Teal Blue or Wild Strawberry (careful with the caps!). You can also change the background colour for the text.

The `color` command (instead of `textcolor`) can be used to switch the colour of an entire block of text until it ends - or until the end of the environment. Remember to switch back in that case!

Here is a list of custom colours (defined in the preamble) instead.

- Pink with `rgb`
- Pink with `RGB`
- Pink with `cmyk`
- Gray with `gray`
- Rubine red at 70% intensity
- A mix of 10% green and 90% orange
- Defined with `HTML` code

These can be used for any element that takes a colour as parameter, like a line.

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## 7 Table of contents

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### Include me please!

This unnumbered section is in the toc.

### I want to be left out!

This unnumbered section is not in the toc.

## 8 Referencing with BibLaTeX

Cite things like this: Dirac, 1981, Einstein, 1905, D. E. Knuth, 1973, D. Knuth, n.d.! You can change the referencing style in the preamble. Make sure your editor of choice is using Biber (or your backend of choice) as its default bibliography tool!

### References

- Einstein, A. (1905). Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]. *Annalen der Physik*, 322(10), 891–921. doi:<http://dx.doi.org/10.1002/andp.19053221004>
- Knuth, D. E. (1973). Fundamental algorithms. (Chap. 1.2). Addison-Wesley.
- Dirac, P. A. M. (1981). *The principles of quantum mechanics*. International series of monographs on physics. Clarendon Press.
- Knuth, D. (n.d.). Knuth: Computers and typesetting. Retrieved from <http://www-cs-faculty.stanford.edu/~uno/abcde.html>. ((accessed: 01.09.2016))