Title page

1.1 Typing in \LaTeX

1.1 A report or an article starts with the title, authors’ names, and date, usually produced using the command \maketitle. You can include your e-mail using the command \thanks inside the \author command, as is done in this document.

1.2 Abstract comes after the title. It describes shortly what is done in the whole text.

1.3 You may but you don’t have to include a table of contents. The first section is usually the introduction and should, as it clearly says, introduce the subject. Don’t start directly with a definition or a theorem.

1.4 Make a clear structure of the text using sections and subsections. The titles should be short and descriptive.

2 Text and mathematics

2.1 Write text! \textit{Describe and explain!} Formulas are formatted nicely using \LaTeX but they only shine if you surround them by a smooth text.

2.2 One should usually not use symbols as $\forall$, $\exists$, $\Leftrightarrow$, and $\Rightarrow$ (they make the text less readable and uglier), apart from centered formulas. The symbols $\leftrightarrow$ and $\Rightarrow$ can often be avoided even here.

2.3 (Almost) everything is a sentence! Except figures, tables, titles, and some special words (Theorem, Remark, ...), everything you write should be a grammatically correct sentence. That means capitalization, punctuation, word order, etc. Yes, even a centered formula is part of a sentence and should be treated as such. Read your text aloud, it will help you spot awkward.

2.4 Any formula that is too long (say 3 cm) or too high (when it reasonably stretches the line height) should be centred. In particular, avoid in-line fractions (replace $\frac{a}{b}$ by $\frac{a}{b}$).

2.5 Enclose in-line math formulas in dollars ($a+b$), even if it is just one letter. It looks different!

2.6 You start a new paragraph by leaving an empty line in the source file. A new paragraph is indented by the length \parskip. Set its value to zero if you don’t like indentation or if your paragraphs are too short. Divide your text to paragraphs and don’t use \textbackslash\textbackslash to start a new line within a paragraph.

2.7 Don’t start a sentence with a math symbol. Always start it with words.

2.8 Bullet point lists and numbered lists can be separate sentences or paragraphs, or parts of a sentence that begins before the list. Give them the right punctuation.

2.9 To structure mathematical text, use the \texttt{amsthm} package for displaying theorems, lemmas, proofs, etc. It also provides numerous possibilities for numbering and your own definitions.

2.10 Type centralized formulas using the commands from the package \texttt{amsmath}. Avoid using boxes around formulas (or anything else), unless it is truly necessary.

2.11 Only those centralized equations which you refer to in the text should be numbered.

3 Bibliography, figures, and tables

3.1 Every item of the bibliography must be cited in the text. Even if it is just a review book that was recommended, cite it at least in the introduction and refer to it as to an additional source for interested readers.

3.2 When you insert figures or tables, always provide a caption. Captions should be descriptive.

3.3 Figures and tables are floats which means that their position is not fixed by default. A reader can skip them and only consult them if they are referred to in the text. Conclusion: make a reference to every figure and table you use.

3.4 How to create figures? The best figures are from vector images (pdf, eps, svg, ...) but also high-resolution raster images are fine. Use your preferred editor (Gimp, Inkscape, ...) or export your figures from a mathematical software (Mathematica, Matlab, Maple, ...). The most customizable (but more difficult to create) figures can be done using packages as \texttt{PStricks}, \texttt{TikZ}, \texttt{pgfplots}, etc.

Conclusion

Mind these simple rules, learn more about \LaTeX and its usage in academic writing, and observe how others are using it. Good luck!