

Introduction to L^AT_EX

A Method for Scientific Writing

Margarita Tzivaki¹

January 16, 2017



¹This workshop was developed together with G. Clendenning and K. Mills

Installation

On Windows, Linux and Mac

- **Windows:** Install MiKTeX or T_EXLive. *After* that install your favourite editor. Configure the path to provide the editor with the exact location of the MiKTeX software.
- **Linux:** Make sure to have the full version of T_EXLive, install your favourite editor (use the package manager).
- **Mac:** Install the MacT_EX package (<http://tug.org/mactex/>). Either use the editor that comes with it (T_EXShop) or install your favourite editor.

Hint:

If MiKTeX is not working try a different server.

Components

Document Format

Header: Determines the formatting

- Document class: *article*, *book*, *report*, *letter* with options for fonts and printing (equivalent KOMA Skript classes: scr)

```
\documentclass[options]{class}
```

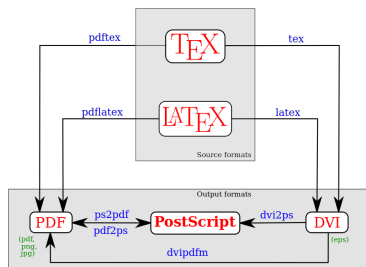
- Usepackages: Activation of special macros

```
\usepackage[parameters]{package}
```

Main Body: The content of the document that is being formatted by the header

Special Pages: Bibliography, appendix commands

Compiling L^AT_EX



Warning!

The only important file types are .tex, .cls and .sty, .bib and .bst. They are not temporary and should not be deleted.

Layout

Page Style

`\pagestyle{'style'}` and `\thispagestyle{'style'}`

- **empty:** Header and footer are cleared
- **plain:** Header is clear, but the footer contains the page number in the center
- **headings:** Footer is blank, header displays information according to document class and page number top right
- **myheadings:** Page number is top right, and it is possible to control the rest of the header
- **fancy:** For better control over the headers and footers

`\usepackage{fancyhdr}`

Formatting

Page Size and Structure

- \LaTeX comes with predefined page and margin sizes for every style and document class
- For manipulation: `\usepackage[options]{geometry}`
- The landscape format is an option of the geometry package
- Text in multiple columns:
`\begin{multicols}{#}...lots of text...\end{multicols}`

Warning!

As \LaTeX is a globally recognized set of typesetting defaults, additional page formatting should be done not without reason and always with great care.

Formatting

Colors

`\usepackage{color}` and `\usepackage[options]{xcolor}`

- Define colors: `\definecolor{'name'}{'model'}{'color-spec'}`
- Coloring text: `\textcolor{declared-color}{text}`
- Coloring the background: `\colorbox{declared-color}{text}`

Formatting

Fonts

Various font styles, shapes and sizes are available.

Font encoding can be modified with

```
\usepackage['encoding']{fontenc}
```

Warning!

For the sake of consistent typography playing a lot with fonts is highly discouraged. This is the work of font and class designers, not end users.