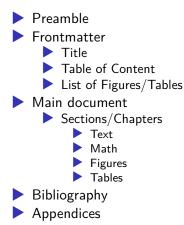
# Course in $\[Mathbb{E}]{TEX}$

### Motivation

Instead of being your own typesetter, you may offset much of it to the computer

- Philosophy: Separate presentation and content
- Maxim: Let the typesetting engine handle it
- Mathematical typesetting looks beautiful
- Figures and tables are sensibly structured
- Bibliographies are handled well
- Lends itself better to large documents (dissertations and books)

### **Document Structure**



### Document Setup

### \documentclass

- Preamble with \input
- Document body with \begin{document}
  - This is an environment
- Frontmatter with \maketitle
- Sections with \input
- Bibliography with \bibliography
- Appendices with \appendix

### Part 0: Preamble

### \usepackage

Custom commands

Any \newcommand could go here

Setup for packages and the entire document

### Part 1: Content



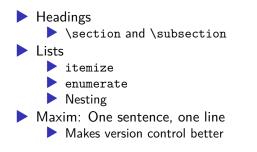
Content and presentation are "mostly separate"

- Which type some content is must be specified in the raw content
- How to present this "type" is defined elsewhere

### Environments and displays



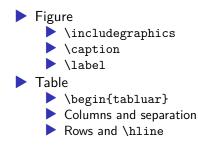
### Normal Text



## Math



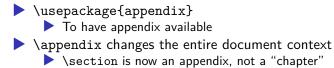
### Figures and Tables



## Referencing

\usepackage{biblatex}
Styling and other options
Sources in the preamble with \addbibresource
To define sources before they're used
\printbibliography
Several options here as well

### Appendices



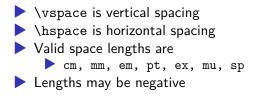
### Part 2: Presentation

- The TeX-engine is powerful and can typeset many things
- Environments inform presentation
- Displays inform presentation

### Linebreaks and pagebreaks

# \\ forces linebreak Used in tables, matrices and mutiline math Also used to force air between paragraphs, but be careful \newpage forces the rest of a page to be empty \mbox forces words to stay together, no hyphenation The ~ character can be used as non-breaking space

### vspace and hspace



### Default and documentwide lengths and widths



- \parskip and \parindent
- \baselinestretch
- \setstretch and \itemsep

### Math - display style

- \textstyle is inline amidst text
- \displaystyle is in its own "box"
- \scriptstyle is when it is nested in sub/superscipt
- \scriptscriptstyle is when it is in the second order script

### Figures and tables

### [width=\textwidth] and other things

- width and angle
- [!htbp]

Here, top, bottom, special "page"

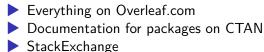
Floats

They float around and cannot be broken up

## Part 3: Custom Commands



# Further Reading



- Maxim: Keep It Simple, Stupid
  - Try to avoid more packages