

An Introduction to \LaTeX

October 21, 2011

Software

- TeXShop
- TexWorks
- LyX
- LaTeXiT

Document Class

`\documentclass[options]{class}`

- `[a4paper]{article}` – used for general write-ups/documents
- `{beamer}` – used for presentations/posters
- journal-specific classes

Pre-amble

`\usepackage[options]{package}`

- `{amsmath}` – general maths package
- `{graphicx}` – insert figures
 - `{subfig}` – allows subfloats
 - `{sidecap}` – allows side captions
 - `{wrapfig}` – allows text wrapping around figure
- `[version=3]{mhchem}` – chemical equations
- `{natbib}` – bibliography management

The document

```
\begin{document}
```

...

```
\end{document}
```

Figures

```
\begin{figure}[placement specifier]  
\includegraphics[size options]{file name}  
\caption{}  
\label{}  
\end{figure}
```

In document, `\ref{label}`

Figures

```
\begin{figure}[placement specifier]
\subfloat[caption1]{\label{label1}\includegraphics[size
options]{file name}} \\
\subfloat[caption2]{\label{label2}\includegraphics[size
options]{file name}}
\caption{general caption}
\label{general label}
\end{figure}
```

Maths

`\begin{equation} ... \end{equation}`

`\begin{equation*} ... \end{equation*}`

`\begin{align} ... \end{align}` – use & as alignment character

`\frac{numerator}{denominator}`

$x^2 = x^2, \quad x_i = x_i$

$\alpha = \alpha$, etc. . .

Lists

```
\begin{description}\item[list style] ... \end{description}
```

```
\begin{enumerate} \item ... \end{enumerate}
```

– numbered list (1. etc)

```
\begin{itemize} \item ... \end{itemize}
```

– bullet points

Bibliography

```
\begin{thebibliography}{99}  
\bibitem{ref_key} reference  
\end{thebibliography}
```

In document, `\cite{ref_key}`

Bibliography

Using natbib

In pre-amble, `\bibpunct{({})}{;}{a}{,}{,}`

n – numerical style, s – numerical superscript style,
any other letter – author-year style

`\bibliographystyle{plain,abbrv,alpha,ieeetr}`

`\bibliography{Bibliography name}`

Then typeset LaTeX, BibTeX, LaTeX

Useful websites

<http://en.wikibooks.org/wiki/LaTeX>

<http://detexify.kirelabs.org/classify.html>

<http://app.uio.no/ifi/texcount/online.php>