



# Learning Latex before it's too late!

Session 2

Andrew Roberts

andyr@comp.leeds.ac.uk



# Overview

- Formatting document
  - Document structure
  - Titles
  - Lists, etc...
- Bibliographies
  - Bibtex tool
  - Bibtex databases
  - Bibliography styles



# Formatting by example

1. Take a sample document in raw text
2. Latex-ify the basic document
3. Markup the front matter
4. Markup sections
5. Format lists
6. Emphasizing words
7. Footnotes



# Recap - Titles

- `\title{document title}`
- `\author{author(s)}`  
(Use newlines (`\\`) to add address and email)
- `\date`
  - `\date{}` – no date
  - `\date{\today}` – today's date
  - `\date{15th October 2003}`
- `\maketitle`



# Recap – Sectioning

- Abstract environment
- Section commands:

<b>Command</b>	<b>Level</b>
<code>\part{...}</code>	-1
<code>\chapter{...}</code>	0
<code>\section{...}</code>	1
<code>\subsection{...}</code>	2
<code>\subsubsection{...}</code>	3
<code>\paragraph{...}</code>	4
<code>\subparagraph{...}</code>	5



# Recap - Lists

- List environments:
  - `itemize`
  - `enumerate`
  - `description`
- `\item` starts new list item
- Can embed lists within lists.



## Recap - Others

- `\emph{...}` to add emphasis to a word or phrase.
- `\footnote{...}` to add a footnote.
- Use `url` package to give the `\url{...}` command.



# Bibliography Management

- Core Latex package provides bibitems.
  - Added at the end of the file.
  - Cross-referenced in document.
  - Numbering done automatically.
- However
  - Need to be manually formatted.
  - References not portable.



# Bibtex

- Additional component that functions along side Latex.
- Requires structured bibliography database. Leads to write once, use many approach.
- Generates a bibliography according to a specified *style*.



# Bibtex database format

```
@ref_type{uniq_key,  
  field1 = "...",  
  field2 = "...",  
  ...  
}
```

- Types include: article, book, inproceedings, phdthesis, etc.
- Fields include: author, title, year, publisher etc. Some are required, others are optional.



# Bibtex database format example

```
@article{greenwade93,  
  author = "George D. Greenwade",  
  title  = "The {C}omprehensive {T}ex  
  {A}rchive {N}etwork ({CTAN})",  
  year   = "1993",  
  journal = "TUGBoat",  
  volume = "14",  
  number = "3",  
  pages  = "342--351"  
}
```



# Another Bibtex database format example

```
@book{goossens93,  
  author   = "Michel Goossens and Frank  
             Mittlebach and Alexander Samarin",  
  title    = "The Latex Companion",  
  year     = "1993",  
  publisher = "Addison-Wesley",  
  address  = "Reading, Massachusetts"  
}
```

NB Order of fields is not important.



## Specifying bib and style files

- To tell Bibtex which .bib file to retrieve  
`\bibliography{bibfile}`  
(don't include the file extension)
- Select style (.bst):  
`\bibliographystyle{style}`  
(standard ones include: plain, alpha, abbrev and unsort. Publishers often supply their own style file.)



# Citing references

- `\cite{ref_key1, ref_key2,...}` at the point you wish the citation to appear.



# Producing output

<code>latex doc</code>	Produces <code>.aux</code> file that lists all citations made within the document
<code>bibtex doc</code>	Looks up <code>.aux</code> file for citations, and generates <code>.bbl</code> according to style.
<code>latex doc</code>	Allows latex to look up the <code>.bbl</code> file.
<code>latex doc</code>	Final run needed to resolve forward references



# Natbib

- Numeric references are de facto standard in Latex.
- The Natbib package (and associated style files) allow for named references, e.g., (Pinker, 2000).
- Must change the style to plainnat.
- Author-year by default, but can add 'numbers' option to get numeric style.



## Natbib – citation commands

<b>Citation command</b>	<b>Natbib output</b>
<code>\citet{goossens93}</code>	Goossens et al. (1993)
<code>\citep{goossens93}</code>	(Goossens et al., 1993)
<code>\citet*{goossens93}</code>	Goossens, Mittlebach, and Samarin (1993)
<code>\citep*{goossens93}</code>	(Goossens, Mittlebach, and Samarin, 1993)



# Making your own styles

- Styles definitions are quite complex for a novice.
- Therefore, use `makebst` to generate one for you.
- It asks questions about your preferences.
- Answer accordingly
- Outputs `.bst` file for you to use.
- At command-line:  

```
latex makebst
```