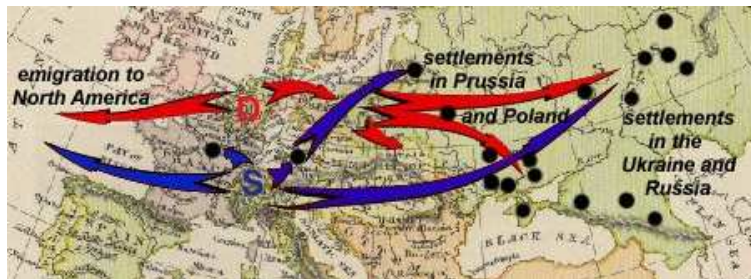


```

\begin{figure}
\caption{Swiss and Dutch Mennonite migrations of the 1700s and 1800s}\label{lmig}
\centering (graphics must be EPS files for standard LATEX; but JPG, PNG, or PDF for pdfLATEX)
\includegraphics[width=.8\columnwidth]{menno-a}\ \ (double backslash for forced linebreak)
\scriptsize Courtesy of Paul C. Adams, Department of Geography and the
Environment, University of Texas at Austin. \cite{adams}\end{figure}

```

Figure 1: *Swiss and Dutch Mennonite migrations of the 1700s and 1800s*



Courtesy of Paul C. Adams, Department of Geography and the Environment, University of Texas at Austin. [1]

Footnotes, citations, references, and indexes (back matter)

You do footnotes with a simple command,² see below. Citations using BIB_TE_X (Patashnik, 1988) are easy (see [2], §7.4.2), and there are packages for more complex formats for journals and publishers. You can add indexes with the `\index` and `\printindex` commands and the `makeindex` program.

```

You do footnotes with a simple command,\footnote{Like this.} see below. Citations
using BIB\TeX{} \citeauthor{oren} are easy (see \cite[§7.4.2]{flynn}), and
there are packages for more complex formats for journals and publishers. You can
add indexes with the \verb'index' and \verb'printindex' commands and the
\textsf{makeindex} program.
\bibliography{myrefs} \bibliographystyle{apalike} (see BIBTEX manual [3] for details)

```

References

- Adams, Paul C. *Linguistic Chaos in Montreal*, www.utexas.edu/depts/grg/adams/chaos.ppt, 2/59, Oct 2006.
- Flynn, P. *Formatting Information*, 2005, at latex.silmaril.ie/formattinginformation/
- Patashnik, O. *BIB_TE_Xing*, T_EX Users Group, 1988 (distributed with all copies of L^AT_EX).
- Sherington, J. example table in 'Informative Presentation of Tables, Graphs and Statistics', 4.2, Statistical Services Centre, University of Reading, www.reading.ac.uk/ssc/publications/guides/toptgs.html
- T_EX Users Group, for T_EX Live (www.tug.org/texlive/) and CTAN (Comprehensive T_EX Archive Network) for downloads (www.ctan.org).

Note. Commercial implementations of T_EX with business support are available from Personal T_EX, Inc (PCT_EX); Blue Sky Research (Textures [Mac]); MacKichan Software, Inc (Scientific Word); Micropress, Inc (VTE_X), TrueT_EX Software (TrueT_EX), and others.

²Like this.

The very short guide to typesetting with L^AT_EX

What's this all about? What's L^AT_EX?

L^AT_EX is a document preparation system for the T_EX typesetting program. It enables you to produce publication-quality output with great accuracy and consistency. L^AT_EX works on any computer and produces industry-standard PDF or PS documents. It is available both in free (open-source) and commercial implementations. L^AT_EX can be used for any kind of document, but it is especially suited to those with a complex structure, repetitive formatting, or notations like mathematics¹; or where technical stability, dimensional accuracy, or a persistent and non-proprietary file format are needed. Install the free software from www.tug.org/texlive/ or buy a commercially-supported version from one of the vendors (see back page).

Creating and typesetting your document

- Create your document using any suitable plain-text editor with L^AT_EX controls, eg *T_EXshop* (Mac), *T_EXnicCenter* (Win), *Kile* (Linux), *Emacs* (all), even *vi*!
- Save the file with a name ending in `.tex` (*never* use spaces in filenames!);
- Use the toolbar buttons or menu items in your editor to typeset and display the document (you need *Acrobat Reader* or similar to display the PDF output);
- Make any changes needed in your original document and repeat step 3.

Syntax (how to type L^AT_EX commands — these are the rules)

- ☞ All L^AT_EX commands begin with a backslash.
Example: `\tableofcontents`
- ☞ If a command needs text to work with (an 'argument'), it goes in curly braces.
Example: `\title{Irisches Tagebuch}\author{Heinrich Böll}`
- ☞ If options are used, they go in square brackets first, before the curly braces.
Example: `\documentclass[a4paper,11pt]{book}`
- ☞ Spaces after commands *without* braces get suppressed.
Example: `Copyright \copyright_2013` \rightsquigarrow Copyright ©2013 ✗
To prevent this, put empty curly braces after the command.
Example: `Copyright \copyright_{ }_2013` \rightsquigarrow Copyright © 2013 ✓
- ☞ Curly braces are also used to restrict the scope of effects inside them.
Example: Some `{\tiny little}` word \rightsquigarrow Some `little` word

Note. This guide shows only a tiny fraction of L^AT_EX's power. For more information, visit the T_EX Users Group site (www.tug.org). For help, see the FAQ (www.tex.ac.uk/faq) and the Usenet newsgroup `comp.text.tex`. For packages, use the Comprehensive T_EX Archive Network (www.ctan.org). For documentation, use the sources in the *References* [2].

¹For reasons of space this guide does not cover details of mathematics typesetting.

Basic document structure

Here's the skeleton of a L^AT_EX document. These three lines are *compulsory*: your document will not work without them:

```
\documentclass{article}
  your Preamble goes here (extra setups, if any)
\begin{document}
  your document text goes here
\end{document}
```

- ☞ The document class name must be one of the standard book, article, or report, or one of the many extras preinstalled or downloadable (eg thesis, memoir, etc).
- ☞ There are paper size options a4paper (210 mm × 297 mm) and letterpaper (8½" × 11") and others (eg a5paper).
- ☞ There are body type size options 10pt (the default), 11pt, and 12pt.

New material introduced in each example is shown below in blue; previous material in black.

Front matter

The **Preamble** is where you specify any extra packages (L^AT_EX plugins) such as typefaces or special formatting requirements, and where you put any changes to standard features.

```
\documentclass[a4paper, 11pt]{book}
\usepackage{charter, graphicx}
\setlength{\parindent}{1em}
\begin{document}
\title{your document title}
\author{your name}
\date{date of publication}
\maketitle
\begin{abstract}
  the paragraphs of your abstract go here
\end{abstract}
\tableofcontents
  the text of your document goes here
\end{document}
```

In a typical document, the title, author, date, abstract (summary), and table of contents (optional) all go at the start, followed by your text.

Leave a blank line between paragraphs as you type. To L^AT_EX, this means 'start a new paragraph', *not* 'leave a blank line'. You can control spacing and indentation by setting \parskip and \parindent with the \setlength command as in the previous example, or with the parskip package.

Sections and cross-references

Sections get numbered automatically in bold type, and get included in the Table of Contents (if any). Numbering can be turned off selectively. Section heading layout can be modified with the sectsty, titlesec, and other packages. Use the babel package for other languages.

```
(Preamble, titling, and abstract as above)
\setcounter{secnumdepth}{3}
\tableofcontents
\chapter{heading of a chapter}
  text for the chapter goes here
...as shown in section \ref{blah}.
\section{heading of a section}
\label{blah} make up name for the label
  text for the section goes here
\chapter{heading of a new chapter}
  text for the new chapter goes here
\end{document}
```

For cross-references, use \label{...} to label the target and \ref{...} and/or \pageref{...} to refer to it. Make up the label values: L^AT_EX will use them to work out the right numbers to print.

Example: ...section \ref{blah} on p. \pageref{blah}. ➤ ...section 3 on p.9.

Typefaces

L^AT_EX's default typeface is Computer Modern. There is a selection of other typeface packages (use them in your Preamble):

Times	mathptmx	Courier	courier
Palatino	mathpazo	Avant Garde	avant
Bookman	bookman	Helvetica	helvet
Charter	charter	Zapf Chancery	chancery
Utopia	utopia	Pandora	pandora
Century	newcent	Fraktur	oldgerm

See each package's documentation for details.

Dozens of others are available, including mathematical and decorative fonts. To switch to a sans-serif type family (eg Helvetica, Avant Garde), use \sffamily in your text. To change font for a word or phrase, use these commands (they can be nested—see below):

Italics	\textit{Hello}	➤	<i>Hello</i>
Boldface	\textbf{Hello}	➤	Hello
Smallcaps	\textsc{Hello}	➤	HELLO
Sans-serif	\textsf{Hello}	➤	Hello
Monospace	\texttt{Hello}	➤	Hello

Example: \textit{\textbf{\textsf{bold italic sans}}} ➤ ***bold italic sans***

Font sizing is automatic for titles, headings, and footnotes. There are some named step-size commands (in points, relative to the base size):

\normalsize	10	11	12	* sizes rounded here to save space
\tiny	5	6	7	
\scriptsize	6	7	8	
\footnotesize	7	8	9	
\small	9	10	11	
\large	11	12	14	
\Large	12	14	17*	
\LARGE	14	17*	20*	
\huge	17*	20*	24*	
\Huge	20*	24*	28*	

You can specify an exact size with the fix-cm package and the command:

\fontsize{pp}{bb}\selectfont
for any point-size (pp) on any baseline (bb). Enclose the command *and* its applicable text in curly braces to prevent it affecting the rest of the document.

For double or 1½ line-spacing (eg in theses) use the setspace package. You can also use RGB, CMYK, HTML, and many other colourspaces with the xcolor package and the \color{name} command.

For verbatim text, use the listings or fancyvrb packages, or the \verb command.

Lists

There are three basic kinds: **itemized** lists (bulleted); **enumerated** lists (numbered or lettered);

and **descriptive** lists (topic-and-explanation format). Others are available on CTAN[5].

<pre>\begin{itemize} \item 1lb Sugar \item ¾pt Cream \item Chocolate \item 2oz Butter \end{itemize}</pre>	<pre>\begin{enumerate} \item Mix together \item Boil to 112°C \item Stir and cool \item Pour into dish \end{enumerate}</pre>	<pre>\begin{description} \item[Fudge] is fun... \item[Broccoli] sucks... \item[Exercise] is good \end{description}</pre>
<ul style="list-style-type: none"> • 1lb Sugar • ¾pt Cream • Chocolate • 2oz Butter 	<ol style="list-style-type: none"> 1. Mix together 2. Boil to 112°C 3. Stir and cool 4. Pour into dish 	<p>Fudge is fun but fattening if made too often.</p> <p>Broccoli sucks, period.</p> <p>Exercise is good for you if taken daily and not to extremes.</p>

You can nest lists inside each other. Use the enumitem package to control list formatting.

Tables and figures

Formal tables and figures will float (change position to fit available space). Use \caption and \label to caption and label tables and figures.

```
\begin{table}
\caption{Mean growth rate and intakes of supplement, milk, and water for 4 diets.}
\label{dietsgrowth}\centering
\begin{tabular}{|l|r|r|r|r|}\hline
& Growth& Supplement& Milk& Water \\
& & rate& intake& intake \\
& & (g/day)& (g/day)& (ml/kg0.75) \\
& & & (ml/kg0.75)& (ml/kg0.75) \\
\hline
Lucerne & 145 & 450 & 10.5 & 144 \\
Sesbania & 132 & 476 & 9.2 & 128 \\
Leucaena & 128 & 364 & 8.9 & 121 \\
None & 89 & 0 & 9.8 & 108 \\
\hline
\end{tabular}
\end{table}
```

Table 2: Mean growth rate and intakes of supplement, milk, and water for four diets (after Sherington, J, undated)

Supplement	Growth rate (g/day)	Supplement intake (g/day)	Milk intake (ml/kg ^{0.75})	Water intake (ml/kg ^{0.75})
Lucerne	145	450	10.5	144
Sesbania	132	476	9.2	128
Leucaena	128	364	8.9	121
None	89	0	9.8	108

Packages like longtable and array can help with more complex table formats.

For help, see the links on the front and back pages. There is a summary of common commands at www.stdot.org/~winston/latex/latexsheet.pdf and a comprehensive list at computing.ee.ethz.ch/~soft/latex/green/ltx-2.html.