

Introduction to L^AT_EX

Joe Struss

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1 Class Examples (Command by Command)

This handout goes over using TeXnicCenter, TeXShop or iTeXMac to create two simple L^AT_EX documents. The examples are done here on a step-by-step basis. So you if get lost, check this sheet. The L^AT_EX system and TeXnicCenter front end used here is from the ProTeXt/TeXLive CD-Rom which can also be downloaded from www.tug.org. The TeXShop TeX Mac front end was downloaded from www.uoregon.edu/~koch/texshop/ and the iTeXMac front end also for the Mac was downloaded from itexmac.sourceforge.net.

1.1 First Class Example

1. *Start your L^AT_EX system:* Start TeXnicCenter by going under **Start** → **Programs** → **TeX Applications** → **TeXnicCenter**. On a Macintosh, simply click on the TeXShop or iTeXMac icon.
2. *Open a File:* Pull down under **File** → **New** or **Open**.
3. Enter the following file:

```
\documentclass{article}
\begin{document}
You can put anything you want here.
Go ahead, be creative.
Write and express yourself.
```

```
See that wasn't so bad, was it.
\end{document}
```

You can move around the editing screen with the arrow keys or the mouse and delete things with the delete key.

4. *Save the File:* Pull down under **File** → **Save As**. Save the file to your Desktop with the name **first.tex**.
5. *Compile your document with PDF \LaTeX :* Within TeXnicCenter make sure your *Output Profile* is set to **\LaTeX ⇒ PDF**, then compile your document by clicking the **Build button**. If you are using TeXShop, click on the **Typeset** button or within iTeXMac pull down under **TeX** → **Typeset**. If all went well, a PDF file should have been created. If an error message pops up, edit the file which contains the error and then re-compile.
6. *Take a look at the result:* Within TeXnicCenter, use the **View Output button** to view the current state of your document. Within TeXShop or iTeXMac, a PDF file should automatically appear. You can also just double-click the **first.pdf** file on your desktop to view your result.
7. During class, alterations to this document and other things you can try will be suggested for this file. To do this, go back to editing your file, make your changes, save, re-compile then continue on from there.

1.2 Second Class Example

1. *Start your \LaTeX system:* Start TeXnicCenter by going under **Start** → **Programs** → **TeX Applications** → **TeXnicCenter**. On a Macintosh, simply click on the TeXShop or iTeXMac icon.
2. *Open a File:* Pull down under **File** → **New** or **Open**.
3. Enter the following file:

```

\documentclass{book}
\begin{document}
\title{Creativity, Wit and Wisdom}
\author{Joe Struss}
\maketitle
You can put anything you want here.
Go ahead and be creative.
Write and express yourself.

```

```

Remember, the concepts and realities
of tomorrow are the creative ideas of today.
\end{document}

```

You can move around the editing screen with the arrow keys or the mouse and delete things with the delete key.

4. *Save the File*: Pull down under **File** → **Save As**. Save the file to your Desktop with the name **second.tex**.
5. *Compile your document with PDF \LaTeX* : Within TeXnicCenter make sure your *Output Profile* is set to **\LaTeX ⇒ PDF**, then compile your document by clicking the **Build button**. If you are using TeXShop, click on the **Typeset** button or within iTeXMac pull down under **TeX** → **Typeset**. If all went well, a PDF file should have been created. If an error message pops up, edit the file which contains the error and then re-compile.
6. *Take a look at the result*: Within TeXnicCenter, use the **View Output button** to view the current state of your document. Within TeXShop or iTeXMac, a PDF file should automatically appear. You can also just double-click the **first.pdf** file on your desktop to view your result.
7. During class, alterations to this document and other things you can try will be suggested for this file. To do this, go back to editing your file, make your changes, save, re-compile then continue on from there.

2 Spell Checking

On a Windows system to check the spelling in your document, go under **Start** → **Programs** → **TeX Applications** → **4Spell**. Use the **Select File** button to choose the file to check and then click on the **Check Spelling** to check your spelling.

On a Macintosh system using TeXShop, spelling is automatically checked for you on the fly. TeXShop underlines in red any word that is not a \LaTeX command and that is not in its standard English dictionary. You can also do a complete spell check by opening a document to check then pulling down under **Edit** → **Check Spelling**.

On a Macintosh system using iTeXMac, you can check your spelling as you type by pulling down under **Edit** → **Spelling** → **Check Spelling As You Type**. You can also do a complete spell check by opening a document to check then pulling down under **Edit** → **Spelling** → **Spell Checker**.

3 Additional L^AT_EX Information

Additional L^AT_EX information and some excellent L^AT_EX Web links can be found on the ISU TEX Web page: <http://css.ait.iastate.edu/Tex/> This includes a local L^AT_EX FAQ as well as some local style files and local example files. The International Tex User's Group (TUG) Web site: <http://www.tug.org> contains complete TeX/L^AT_EX information and documentation.

4 Top Ten Solutions To Common L^AT_EX Problems

1. Normally use the article, book or report documentclass (or the slides documentclass for overhead slides).
2. Leave a blank line to start a new paragraph. Use `\noindent` before a paragraph to get a paragraph without paragraph indentation.
3. Watch out for special characters as listed in standard L^AT_EX documentation. Usually you just put a backslash `\` in front of the special character to get the character you want. (Exception: `+ = | ><`; all require `$` signs around them.)
4. For double-quotes in LaTeX, use two left single quotes `‘` to start your quoted statement and two right single quotes `’` to end your quoted statement.
5. Use a tilde `~` (sticky space) after words such as Mr. or Mrs. or Dr. to prevent line breaking and use `\` after a period that does not end a sentence and is not after an uppercase letter.
6. To use different font styles and sizes, like a bold or a tiny character: enclose the area for the change in braces and use a command from the standard L^AT_EX font size list after the first brace to get the change that you want. For example: `{\tiny dog}` which gets you a tiny `dog`.
7. Do not underline items in L^AT_EX use emphasis `\emph{item}` instead.
8. Enter math mode with a `$` then use a `^` to get a superscript and `_` to get a subscript. Use `{}` to group items together in a superscript or subscript— for example: `a^{34}` $\rightarrow a^{34}$ or `b_7` $\rightarrow b_7$. Remember to leave math mode with another `$` before you continue on.

9. You can divide your paper into parts by using the following sectioning commands: `\chapter` (not available in article), `\section`, `\subsection`, `\subsubsection`, `\paragraph`, and `\subparagraph`.
10. Use `\` or `\space` to put in a required blank into your document or use `\hspace` or `\vspace`; for example: `\vspace{1 in}`— to add horizontal or vertical space within your document. You must have something on a page before you can do a `\vspace` so if necessary do a `\space` followed by a `\vspace`. You can also use `\hspace*` or `\vspace*` to force horizontal or vertical space into a document. Use `\newpage` to force L^AT_EX to go to a new page in your document.

5 L^AT_EX for your Microcomputer

A version of L^AT_EX for UNIX and Macintosh systems (TeXLive) and Windows systems (ProTEXt) is available from the Solution Center, 195 Durham Center, during normal business hours. You can also download these programs via links from the Local ISU Tex Web site:

<http://css.ait.iastate.edu/TeX/>

or the International Tex Web site: <http://www.tug.org>.

6 References

- *L^AT_EX User's Guide and Reference Manual* by Leslie Lamport. Standard L^AT_EX manual with lots of useful information. A little expensive because it is the “official” L^AT_EX book.
- *A Guide to L^AT_EX* by Helmut Kopka and Patrick W. Daly. Great less expensive L^AT_EX book that covers both standard L^AT_EX and gets into some excellent L^AT_EX information regarding graphics and the tabular environment.
- *The L^AT_EX Companion* by Goosens, Mittelbach and Samarin. The “official” follow-up guide to Lamport's book. Terrific information on L^AT_EX packages but still a little pricey.
- **Local Works** from: <http://css.ait.iastate.edu/TeX/classes.html> which include: *Writing a Paper with L^AT_EX* and *The isuthesis Package* by Joe Struss. All free to download and the “Writing a Paper with L^AT_EX” document has a series of fairly complicated math examples and a foreign language example.