

L^AT_EX: Why, What, Where, and How?

1 Why use it?

L^AT_EX (pronounced “lay-tek”) is a program that was created specifically for typesetting mathematical documents, and it does it beautifully. L^AT_EX is the standard method of mathematical typesetting (and thus communication) used by mathematicians all over the world.

2 What is it?

L^AT_EX is a computer program that takes a text file `foo.tex` and compiles it into a typeset document `foo.pdf`, `foo.ps`, or `foo.dvi` for viewing or printing. It is *not* a “WYSIWYG” (what you see is what you get) program like Word or Works, where what you type and how you format your type in the document is exactly what is printed in the final document. What you type in a L^AT_EX document resembles a very simple computer program written in plain text, and by compiling with L^AT_EX a very different-looking typeset document is created. For example, if you type `$$\sqrt{\sin x^2}$$` in a Word document and print it, you will see exactly what you typed: `$$\sqrt{\sin x^2}$$`. If you type the same thing in a L^AT_EX document and compile it, it will be typeset as $\sqrt{\sin x^2}$.

3 Where can I get it?

- **Windows:** To use LaTeX on your own Windows machine, see the very detailed instructions “Setup and Tutorial for Using LaTeX with TextPad/MiKTeX/Yap” on the class website, www.math.jmu.edu/~taa1/245_2006.html. Alternatively, you can use TeXnicCenter for LaTeX in the computer lab in Burruss 030; see the instructions on the class website.
- **Mac:** The best option is the fantastic, free, OS X-compatible program *TeXShop*, available for download at <http://www.uoregon.edu/~koch/texshop/obtaining.html>. It is helpful to read and/or print the notes on the website concerning “Installing” (including the notes on “Installing teTeX/TeXLive”, “Installing TeXShop”, and “Where’s My Stuff?”) before beginning the installation procedure. You may also want to look at parts of the Windows link mentioned above, since there is a beginner’s LaTeX tutorial there.

4 How can I learn to use it?

For this class you will only need to typeset very simple L^AT_EX documents, so you can probably pick up everything you need to know from the sample document I’ve handed out. Probably the first thing you should do after installing and opening a L^AT_EX compiler is to open up the sample document and compile it. Then compare what is written in the text document with the result displayed in the typeset document. Your text editor should “colorize” comments in red or some other color so that they stand out from the L^AT_EX code. If you skip this step of comparing the text document to the typeset document and reading comments, then you will miss a lot of important information and I will not be impressed when later on you ask me about it.

5 Help, I’m still confused!

For further information, one of the best online resources is www.ctan.org. If you need help beyond that, try a Google search for “latex introduction” or “latex help” or whatever command, symbol, style, or format you need to know about. There is a *lot* of online L^AT_EX documentation.