First Steps in LaTeX

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Abstract

This document provides the reader with the steps to get started using LaTeX on Windows. Also included are details about sample documents/templates available on the CNL website.

1 Introduction

If your reading this document, you presumably have a desire to learn and use LaTeX. Perhaps this is for the unmatched typesetting of LaTeX, the ease of use, or the fact that this open source marvel is *the* preferred format in many industries. Let me thus congratulate you, and—as a reader of scientific papers myself—let me thank you for wanting to present your work in a high-quality fashion.

2 Getting Started

Getting started using LaTeX is relatively simple.

Get MiKTeX You first need the LaTeX code itself, the inner core which is used to compile the documents you will write. There are several collections of LaTeX code available, but my favorite is MiKTeX found at `www.miktex.org`. Download the latest version of MiKTeX and install it.

(Note: installing the entire collection of libraries requires upwards of 500 MB of space. If space is not an issue, I recommend the full version, since it's inconvenient to have to grab packages you might need later on.)

Get WinEdt^{TM} Next, you need an application within which to compose and compile your documents.[1] A preferred application ideally suited for this is WinEdt, found at `www.winedt.com`.[2] Unlike LaTeX itself, WinEdt is shareware. You can use it for free for 30 days, and after that time, a registration reminder screen will appear with annoyingly high frequency. The cost of registration for a student is a mere $30. Download the latest version of WinEdt and install it.

Get a Book Get yourself (perhaps at GMU's library) a book on LaTeX to have with you on your introductory journey. (I used George Grätzer's book *Math into LaTeX*, but many other books are available.) The alternative for this is finding a comprehensive guide on Internet. Either way, my recommendation is, when you choose a reference, to stick with it throughout the steep part of the learning curve. Shuttling amongst many references might lead to confusion. To aid you, a list of LaTeX commands is provided on CNL's site.

Get Going Learning LaTeX is done by doing, and so you need to practice as much as you can. Type your homework assignments in LaTeX. Write down your research notes in LaTeX. Grab a mathematically-intensive *Transactions* article and try to reproduce it. There are multitudinous tutorials to be found on Internet, so make good use of them. You also can find sample documents for a variety of purposes on CNL's site. (See Section 3.)

Get More Advanced Throughout my own LaTeX education, I've learned various lessons that you might find helpful. I've compiled these tips in a separate document.

3   Sample Documents

This section will detail the sample LaTeX documents that are available at `cnl.gmu.edu`.

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[1] *Technically,* you can compose your code in the sparest of text editors and compile the document on the command line. (I've met folks who have written entire dissertations this way in NotePad.) But in the interests of clarity and efficiency, a modern editor is the way to go.

[2] This is not a typo: WinEd*it* is a different and unrelated application.

3.1   General Articles

The file `Generic_Article.tex` provides a self-contained article template. This template is suitable for LaTeX experimentation and internal technical articles. (Publication submissions should be composed using one of the templates in Section 3.3.)

3.2   Theses and Dissertations

With Daniel Awduche providing the starting point I've put together the collection of files that constitutes the official LaTeX template for GMU theses and dissertations. GMU's library website posts the templates at the following address:

> `http://www.gmu.edu/library/specialcollections/dtsamplepages.htm`

In addition,

3.3   IEEE/IEE Publications

3.4   Presentations

I *highly* recommend adapting your LaTeX code for slide show presentation, since having to resort to PowerPoint for equation-heavy presentations would be counterproductive. There are several LaTeX packages available for this purpose, but a good starting point is the "prosper" class.[3] It is easy to use, and

Two templates have been provided:

1. `Prosper_Generic_Slides.zip` contains all of the files necessary for the

2.

3.5   Resumé

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[3]Note that the prosper class is *not* included in the basic MiKTeX distribution. You need to either download the full distribution or specifically download the prosper class files if you've only installed the basic distribution. (This, of course, is one of the reasons to start with the full release of MiKTeX from the beginning.)