

# Installing TeX/L<sup>A</sup>T<sub>E</sub>X on a Windows or Macintosh System

Joe Struss

Oct. 15, 2010

## 1 Overview

TeX/L<sup>A</sup>T<sub>E</sub>X is a typesetting system that allows for easy creation of mathematical symbols and equations. TeX has become popular because it is both in the public domain and documents created with TeX are archival and thus don't change or become unloadable over time. It's now fairly easy to install a TeX/L<sup>A</sup>T<sub>E</sub>X system on your microcomputer and it even comes with various front-ends you can use so that you can customize your own TeX experience.

This document will go over installing a standard TeX/L<sup>A</sup>T<sub>E</sub>X system on a Windows or Macintosh microcomputer. A base TeX/L<sup>A</sup>T<sub>E</sub>X installation normally includes two parts: a TeX/L<sup>A</sup>T<sub>E</sub>X base system and a front-end system from which to easily use the TeX/L<sup>A</sup>T<sub>E</sub>X base. Additional information on how to add the isuthesis package to the installation is also included.

## 2 Windows Installation

ProTeXt puts a complete public domain tex system on your Windows system for use with creating papers, writing document or making a thesis with TeX and L<sup>A</sup>T<sub>E</sub>X.

### 2.1 Downloading ProTeXt

You can get a free copy of the ProTeXt from the TUG web site at:  
<http://www.tug.org/>

The TUG web site is the International home of the Tex Users Group. Once you have arrived there, click on the **Getting Started** link on the upper left side then click on the **ProTeXt** link within the second section on the *Getting Started* page. You can also go to this page directly at:

<http://www.tug.org/protext/>

Once you get to ProTeXt page, click on the **self-extracting archive** link then **right-click** the **ProTeXt-version.exe file** and save it to your desktop. Once the archived file arrives on your desktop, **click open** the archive and click on the **install** button.

## 2.2 Getting Started with ProTeXt

ProTeXt uses a PDF file to guide you through a basic TeX installation. You actually click on links in the PDF file to install TeX on your machine. A standard Windows installation involves two main parts: a main TeX system (MikTeX) and two TeX interfaces or front-ends (TeXnicCenter and TeX-Works). We will be installing a few little extras as well. Click open the **ProTeXt** folder and then open the **Install** folder and finally click open the **protext-install.en.pdf** file.

## 2.3 ProTeXt Installation

### 2.3.1 MikTeX

Open up the PDF file and browse down until you see the line:

**Click here to install MikTeX**

and click that spot in the file. Take all the defaults for a **Complete** TeX installation. This can take 15-30 minutes to complete.

### 2.3.2 TeXnicCenter

Go back to your installation PDF file and browse down the file until you find:

**Click here to install TeXnicCenter**

and click that spot in the file. Take all the defaults for a standard TeXnic Center installation including clicking the box for a desktop link for using TeXnic Center.

### 2.3.3 Ghostscript and GSview

Ghostscript/Ghostview allow a standard TeX installation to show graphics when using the standard L<sup>A</sup>T<sub>E</sub>X compiler. If you are going to use the standard L<sup>A</sup>T<sub>E</sub>X compiler then go down a little further into the PDF file and install both of these packages. Just take the defaults and it should end up being very easy and quick to install.

## 2.4 Finishing Up

Viola! All the major installations for using TeX and L<sup>A</sup>T<sub>E</sub>X on a Windows system are now complete. You might add the isuthesis style files or another front-end for L<sup>A</sup>T<sub>E</sub>X a little later on but other than that your TeX system is ready to go.

To test out your new installation, startup either **TeXnic Center** or **TeXworks** then create a new file named **first.tex** and put the following lines into that file:

```
\documentclass{report}
\begin{document}
Hello world!
\end{document}
```

After that compile your *first.tex* file with the **PDFL<sup>A</sup>T<sub>E</sub>X** compiler. You should see the *first.pdf* file as a result and *Hello world!* should pop-up on your printed first.pdf page.

## 2.5 Other Windows Front-Ends/Editors

There are many other L<sup>A</sup>T<sub>E</sub>X front-ends or editors that you might use with a TeX base. For other front-ends you might try, take a look at the free editors section at the bottom of the following web page:

[http://en.wikipedia.org/wiki/Comparison\\_of\\_TeX\\_editors](http://en.wikipedia.org/wiki/Comparison_of_TeX_editors)

One front-end that I used to use a lot is called WinShell and is it available at: <http://www.winshell.de>

## 2.6 Adding the isuthesis style files

To add the isuthesis style files to your TeX installation, go to the following web page: <http://css.ait.iastate.edu/TeX/> and click on the *isuthesis*

link followed by the *isuthesis package* link. You can also go straight to this page by going to: <http://css.ait.iastate.edu/Tex/Local/>

Right-click **Isuthesis.zip** and save it to your desktop then extract the zip file. This should give you an Isuthesis folder on your desktop which includes the isuthesis style folder and a few other style files along with it.

### 2.6.1 Installing isuthesis the Standard Way

To install the style files the standard way, create a folder called **Localtex**. Inside that folder create a folder named **tex**. Within that folder, make a folder named **latex** and finally within that folder create a folder named **misc**. Take the *Isuthesis* folder and put that folder within the **misc** folder. So you should have: `Localtex\tex\latex\misc\Isuthesis`; as a set of folders. Finally grab the **Localtex** folder and place it into the `C:\Program Files` folder on your system.

Then to tell MikTeX where your local files are located. Go under **Start** → **All Programs** → **MikTeX** → **Maintenance** → **Settings**. Click the **Root** tab followed by the **Add button**. To add your local folder to the root, click on the `C:` drive, the `Program Files` folder and then the `Localtex` folder to add the following path: `C:\Program Files\Localtex`. Click **Apply** and then **OK** when you are finished.

Your isuthesis style files should now be available for your use. This may seem a little long but you only have to do it once.

### 2.6.2 Installing isuthesis the Fast Way

The fast way to install the isuthesis style files is to simply dump them into the same folder where your isuthesis template files are contained.  $\LaTeX$  will immediately pick up on any style files contained in its current folder. The isuthesis style files will hopefully soon get added to the official TUG files for automatic installation on most platforms.

If you are going to do it this way, try downloading the **isuthesis1file.sty** from: <http://css.ait.iastate.edu/Tex/Local/isuthesis1file/> and then change the `\usepackage{isuthesis}` line in your thesis.tex file to `\usepackage{isuthesis1file}`. The isuthesis1file style file is the complete isuthesis package system as a single style file. You may also want to download the *traditional.sty* style file as well if you are doing a traditionally styled thesis.

## 2.7 Adding the ISUThesis Template files

To try out your new installation, download the isuthesis template files from: <http://css.ait.iastate.edu/Tex/Thesis/Std/>. Simply right-click on the **Stdthesis.zip** file and download the folder of template files to your Desktop then extract them.

Once you have downloaded the thesis template, startup either **TeXnic Center** or **Texworks**. Next within that program, open up the **thesis.tex** file within your thesis template folder then compile **thesis.tex** with the **pdfLaTeX** compiler to see your results. It should look like a fairly complete but very short thesis. Now you just need to fill in the rest of the material.

### 2.7.1 The Alternate ISUThesis Template Files

An alternate thesis style named **Altthesis.zip** is available for download from: <http://css.ait.iastate.edu/Tex/Thesis/Alt/>

### 2.7.2 The 1File ISUThesis Template File

If you want a standard thesis as just one big file instead of being segmented into smaller files, there is yet another template you can use named **isuthesis1file.zip** which is available from:

<http://css.ait.iastate.edu/Tex/Local/isuthesis1file/>

Unless you also download the **isuthesis1file.sty** style file and install it with the rest of the isuthesis package style files, you will need to change the `\usepackage{isuthesis1file}` within the **isuthesis1file.tex** to be `\usepackage{isuthesis}`.

### 2.7.3 ISUThesis Documentation

The complete isuthesis package manual is available at: <http://css.ait.iastate.edu/Tex/Tex/isuthesis.pdf> for more specific thesis information.

## 3 Macintosh Installation

It's fairly easy to download and install a full TeX/L<sup>A</sup>T<sub>E</sub>X system onto your Macintosh. The MacTeX package that comes from the TeX Users Group (TUG) is extra easy to install and includes a standard Macintosh L<sup>A</sup>T<sub>E</sub>X system as well as two standard L<sup>A</sup>T<sub>E</sub>X front-ends (TeXShop and Texworks) along with some other goodies as well.

### 3.1 Installing the MacTeX Package

The MacTeX package provides an easy way to install a TeX base on your Macintosh including two L<sup>A</sup>T<sub>E</sub>X front-ends. Simply go to the International TeX Users Group web site: <http://www.tug.org/> and click on the **Getting Started** link in the upper left section then click on the **MacTeX** link on the *Getting Started* page. You can also go to this page directly at: <http://www.tug.org/mactex/>

Click on the **MacTeX.mpkg.zip** link to download the installation. The package itself installs like any other normal Macintosh package so simply click on the **Install** button when it appears and take all of the installation defaults.

When you are finished in your **Applications** folder, you should find a **TeX** folder which contains: **Bibdesk**- for creating a bibliography, **LaTeXIt**- for working on math equations, **TeXShop**- an excellent L<sup>A</sup>T<sub>E</sub>X front-end, and **Texworks**- the standard L<sup>A</sup>T<sub>E</sub>X front-end.

### 3.2 Testing your Macintosh Installation

To test out your new installation, startup either **TeXShop** or **Texworks** then create a new file named **first.tex** and put the following lines into that file:

```
\documentclass{report}
\begin{document}
Hello world!
\end{document}
```

After that compile your *first.tex* file with the **PDFL<sup>A</sup>T<sub>E</sub>X** compiler. You should see the *first.pdf* file as a result and *Hello world!* should pop-up on your printed first.pdf page.

### 3.3 Other Macintosh Front-Ends/Editors

There are many other L<sup>A</sup>T<sub>E</sub>X front-ends or editors that you might use with a TeX base. For other front-ends you might try, take a look at the free editors section at the bottom of the following web page:

[http://en.wikipedia.org/wiki/Comparison\\_of\\_TeX\\_editors](http://en.wikipedia.org/wiki/Comparison_of_TeX_editors)

The other Macintosh front-end I normally recommend is TeXmaker which is available from: <http://www.xmlmath.net/texmaker/>.

### 3.4 Adding the isuthesis style files

To add the isuthesis style files to your TeX installation, go to the following web page: <http://css.ait.iastate.edu/TeX/> and click on the *isuthesis* link followed by the *isuthesis package* link. You can also go straight to this page by going to: <http://css.ait.iastate.edu/TeX/Local/>

Click on the **Isuthesis.zip** file which should download and extract itself into your *Downloads* folder. Move the **Isuthesis** folder from your **Downloads** folder to your **Desktop**. This should give you an Isuthesis folder on your desktop which includes the isuthesis style folder and a few other style files along with it.

#### 3.4.1 Installing isuthesis the standard way

In a **New Finder Window**, click open up your **Library** folder, create a new folder in there named **texmf** if one is not already there. In the *texmf* folder create another folder named **tex** and in that folder create another folder named **latex**. So as a sequences of folders in your Library folder you should have: **texmf** → **tex** → **latex**.

Place the **Isuthesis** folder into the **latex** folder and you will have the isuthesis style files on the correct TeX path and ready for business.

#### 3.4.2 Installing isuthesis the Fast Way

The fast way to install the isuthesis style files is to simply dump them into the same folder where your isuthesis template files are contained. L<sup>A</sup>T<sub>E</sub>X will immediately pick up on any style files contained in its current folder. The isuthesis style files will hopefully soon get added to the official TUG files for automatic installation on most platforms.

If you are going to do it this way, try downloading the **isuthesis1file.sty** from: <http://css.ait.iastate.edu/TeX/Local/isuthesis1file/> and then change the `\usepackage{isuthesis}` line in your `thesis.tex` file to `\usepackage{isuthesis1file}`. The `isuthesis1file` style file is the complete `isuthesis` package system as a single file. You may also want to download the *traditional.sty* style file as well if you are doing a traditionally styled thesis.

## 3.5 Adding the ISUThesis Template files

To try out your new installation, download the `isuthesis` template files from: <http://css.ait.iastate.edu/TeX/Thesis/Std/>. Simply click on **Stdthesis.zip** and download the files then move them to your Desktop.

Once you have downloaded the thesis template, startup either **TeXShop** or **Texworks**. Next within that program, open up the `thesis.tex` file within your thesis template folder then compile `thesis.tex` with the **pdfLaTeX** compiler to see your results. Should look like a fairly complete but very short thesis. Now you just need to fill in the rest of the material.

### 3.5.1 The Alternate ISUThesis Template Files

An alternate thesis style named **Altthesis.zip** is available for download from: <http://css.ait.iastate.edu/TeX/Thesis/Alt/>

### 3.5.2 The 1File ISUThesis Template File

If you want a standard thesis as just one big file instead of being segmented into smaller files, there is yet another template you can use named **isuthesis1file.zip** which is available from:

<http://css.ait.iastate.edu/TeX/Local/isuthesis1file>

Unless you also download the **isuthesis1file.sty** style file and install it with the rest of the `isuthesis` package styles files, you will need to change the `\usepackage{isuthesis1file}` within the `isuthesis1file.tex` to be `\usepackage{isuthesis}`.

### 3.5.3 ISUThesis Documentation

The complete `isuthesis` package manual is available at: <http://css.ait.iastate.edu/TeX/TeX/isuthesis.pdf> for more specific thesis information.

## 4 For Additional Information

Additional information on Tex and L<sup>A</sup>T<sub>E</sub>X use at ISU is available at:

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

Try the *Classes* link for information on how to use Texworks or TeXShop from the “Introduction to L<sup>A</sup>T<sub>E</sub>X” class handout notes. There are also two online full length L<sup>A</sup>T<sub>E</sub>X classes to view from the *Classes* page which if you are in a hurry is a great way to get started with L<sup>A</sup>T<sub>E</sub>X. Also try the *FAQ* link for a set of stock questions and answers regarding L<sup>A</sup>T<sub>E</sub>X.

If you want to use the *EndNote* bibliographics software package with L<sup>A</sup>T<sub>E</sub>X then you might want to look at the following information contained here:

<http://www.rhizobia.co.nz/latex/convert.html>

Additional introductory L<sup>A</sup>T<sub>E</sub>X information is available from the University of Cambridge: <http://www-h.eng.cam.ac.uk/help/tpl/textprocessing/> and from the TeX Users Group “Getting Stared” page which is located at:

<http://www.tug.org/begin.html>.

Happy TEXing.