

Installing TeX/L^AT_EX on a Windows or Macintosh System

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1 Online

An online video version of this guide is available for your viewing at: <http://css.ait.iastate.edu/Tex/installation.html> with additional links to it at <http://css.ait.iastate.edu/>. This online educational video shows a step-by-step installation on both a Macintosh and a Windows system.

2 Overview

TeX/L^AT_EX 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^AT_EX 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^AT_EX system on a Windows or Macintosh microcomputer. A base TeX/L^AT_EX installation normally includes two parts: a TeX/L^AT_EX base system and a front-end system from which to easily use the TeX/L^AT_EX base. Additional information on how to add the isuthesis documentclass and template files to the installation are also included.

3 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^AT_EX.

3.1 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/protex/>

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.

3.2 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 **protex-install.en.pdf** file.

3.3 ProTeXt Installation

3.3.1 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.

3.3.2 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.

3.3.3 Ghostscript and GSview

Ghostscript/Ghostview allow a standard TeX installation to show graphics when using the standard L^AT_EX compiler. If you are going to use the standard L^AT_EX 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.

3.4 Finishing Up

Viola! All the major installations for using TeX and L^AT_EX on a Windows system are now complete. You might add the isuthesis documentclass files or another front-end for L^AT_EX 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^AT_EX** compiler. You should see the *first.pdf* file as a result and *Hello world!* should pop-up on your printed first.pdf page.

3.5 Other Windows Front-Ends/Editors

There are many other L^AT_EX 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

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

3.6 Adding the isuthesis documentclass and template files

To add the isuthesis documentclass and template files to your TeX installation, go to the following web page: <http://css.ait.iastate.edu/TeX/>. After that, right-click on the *isuthesis Documentclass* link and save it to your desktop then extract the zip file. This should give you an **isuthesis complete** folder on your desktop which includes the isuthesis documentclass files (isuthesis.cls and isutraditional.sty) along with a complete isuthesis template and a few other Extra files to go along with it.

This is actually all you need to install to get started on your thesis. The main file is called thesis.tex and as long as you keep it at the same folder level as the isuthesis.cls and isutraditional.sty files then everything should work properly. Go ahead and try out the isuthesis template by opening up the thesis.tex file and compiling it with PDF \LaTeX .

The parts of your thesis are brought in to the main thesis.tex file with the `\include` commands from various folders in your installation. The title page, abstract, acknowledgements and dedication information is contained in the **Preface** folder. The chapters of your thesis are contained in the **Body** folder. While the references area of your thesis are contained in the **Reference** folder. This template by default uses BibTeX. If you wish to use the `thebibliography` environment instead, just changed the last include of your thesis to `\include{Reference/biblio}`.

3.6.1 Installing the isuthesis Documentclass

To actually install the isuthesis documentclass, 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.cls and isutraditiaonal.sty files and put them in a folder named **Isuthesis** that you then take and put 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 documentclass files should now be available for your use anywhere on your system. This may seem like it takes a little while to complete but you only have to do it once.

3.6.2 ISUThesis Documentation

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

An online instructional video for the isuthesis documentclass is also available from: <http://css.ait.iastate.edu/>.

4 Macintosh Installation

It's fairly easy to download and install a full TeX/L^AT_EX 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^AT_EX system as well as two standard L^AT_EX front-ends (TeXShop and Texworks) along with some other goodies as well.

4.1 Installing the MacTeX Package

The MacTeX package provides an easy way to install a TeX base on your Macintosh including two L^AT_EX 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 \LaTeX front-end, and **Texworks**- the standard \LaTeX front-end.

4.2 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 **PDF \LaTeX** compiler. You should see the *first.pdf* file as a result and *Hello world!* should pop-up on your printed first.pdf page.

4.3 Other Macintosh Front-Ends/Editors

There are many other \LaTeX 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

The other Macintosh front-end I normally recommend is TeXmaker which is available from: <http://www.xm1math.net/texmaker/>.

4.4 Adding the isuthesis documentclass and template files

To add the isuthesis documentclass and template files to your TeX installation, go to the following web page: <http://css.ait.iastate.edu/TeX/>. After that, click on the *isuthesis Documentclass* link and save it to your system- it should end up going to your **Downloads** folder. Move the **Isuthesis Complete** folder from your **Downloads** folder to your **Desktop**.

This should give you an **isuthesis complete** folder on your desktop which includes the isuthesis documentclass files (isuthesis.cls and isutraditional.sty) along with a complete isuthesis template and a few other Extra files to go along with it.

This is actually all you need to install to get started on your thesis. The main file is called thesis.tex and as long as you keep it at the same folder level as the isuthesis.cls and isutraditional.sty files then everything should work properly. Go ahead and try out the isuthesis template by opening up the thesis.tex file and compiling it with PDF \LaTeX .

The parts of your thesis are brought in to the main thesis.tex file with the `\include` commands from various folders in your installation. The title page, abstract, acknowledgements and dedication information is contained in the **Preface** folder. The chapters of your thesis are contained in the **Body** folder. While the references area of your thesis are contained in the **Reference** folder. This template by default uses BibTeX. If you wish to use the `thebibliography` environment instead, just changed the last include of your thesis to `\include{Reference/biblio}`.

4.4.1 Installing the isuthesis Documentclass

To actually install the isuthesis documentclass, first you need to open a new finder window: **File** \rightarrow **New Finder Window**. Next click to open up your **Library** folder then 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** \rightarrow **tex** \rightarrow **latex**.

Take the isuthesis.cls and isutraditiaonal.sty files and put them into a folder named **Isuthesis**. Next place the **Isuthesis** folder into the **latex** folder that you just created in your library and you should have the isuthesis documentclass files on the correct TeX path and ready for business.

Your isuthesis documentclass files should now be available for your use anywhere on your system. This may seem like it takes a little while to complete but you only have to do it once.

4.4.2 ISUThesis Documentation

The complete isuthesis documentclass manual is available at:
<http://css.ait.iastate.edu/TeX/TeX/isuthesis.pdf>

for more specific thesis information.

An online instructional video for the isuthesis documentclass is also available from: <http://css.ait.iastate.edu/>.

5 For Additional Information

Additional information on Tex and L^AT_EX 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^AT_EX” class handout notes. There are also two online full length L^AT_EX classes to view from the *Classes* page which if you are in a hurry is a great way to get started with L^AT_EX. Also try the *FAQ* link for a set of stock questions and answers regarding L^AT_EX.

If you want to use the *EndNote* bibliographics software package with L^AT_EX then you might want to look at the following information contained here:

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

Additional introductory L^AT_EX 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.