

AFIT/ENP THESIS PRIMER: A DOCUMENT IN LATEX

THESIS

Amy L. Magnus, Maj (ret), USAF AFIT/GAP/ENP/10-??

DEPARTMENT OF THE AIR FORCE AIR UNIVERSITY

AIR FORCE INSTITUTE OF TECHNOLOGY

Wright-Patterson Air Force Base, Ohio

DISTRIBUTION STATEMENT A APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.



THESIS

Presented to the Faculty

Department of Engineering Physics

Graduate School of Engineering and Management

Air Force Institute of Technology

Air University

Air Education and Training Command in Partial Fulfillment of the Requirements for the Degree of Master of Science in Applied Physics

Amy L. Magnus, B.S.E.E., M.S.E.E., PhD Maj (ret), USAF

28 February 2014

DISTRIBUTION STATEMENT A APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.

THESIS

Amy L. Magnus, B.S.E.E., M.S.E.E., PhD Maj (ret), USAF

Committee Membership:

Dr. I. M. Smart Chairman

Dr. M. E. Too Member

Maj S. D. Sharp, PhD Member

Abstract

This primer aids the AFIT student in generating the first draft of their thesis using LaTeX. The primer is produced according the tenets described within the document. All source code is provided in a zip file posted to L:\Courses\PHYS\LaTeX. The file structure of this zip file demonstrates a practical way to organize a thesis with its supporting materials and—further—illustrates how your document can be produced with version control.

List of Figures

Figure		Page
1.	I₽TEX a very simple document	2
2.	Recompile using afitThesis.sty, the AFIT thesis style file	2
3.	Enter student data in titlePage.tex to customize the document's first pages	3
4.	Here we have compiled the first four page of a thesis	4
5.	Consider defining all your figures in one file	5
6.	Add figures in the main matter of your document; fill in the document around your graphics	6

I. Preliminary Results

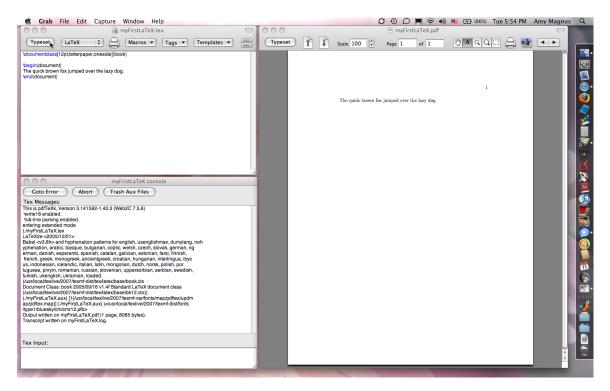


Figure 1. Compile a very simple document.

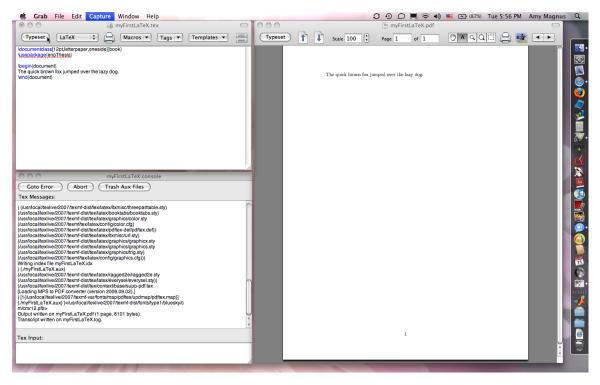


Figure 2. Recompile using afitThesis.sty, the AFIT thesis style file.

```
a titlePage.tex
   Typeset
                                               Macros ▼
                                                                              Templates
                  LaTeX
                                                                Tags
                                                                                                  22
   %% Customize your document with your personal information
   %% First, comment out the approapriate document type
   \afitthesis %%default
 3
 4
   % \afitreport
 5
   % \dissertation
   % \prospectus
   \author{Amy L. Magnus}
 8
   \rank{Maj (ret), USAF} % If a civilian, comment out this line.
9
10
    \docdesignator{AFIT/GAP/ENP/10-??}
11
12
    \department{Department of Engineering Physics}
13
    \graduationdate{\today}
14
    \flytitle{AFIT/ENP THESIS PRIMER:\\ A DOCUMENT IN \LaTeX}
15
    \title{\MakeUppercase{AFIT/ENP Thesis Primer:}\\
16
17
       WakeUppercase{ a document in \LaTeX}}
                   % Note, if you use WakeUppercase to put
18
                   % the title in all uppercase as the style
19
                   % guide demands, understand that the
20
                   % command does not allow page breaks "\\"
21
                   % within its brackets.
22
    previousdegrees(B.S.E.E., M.S.E.E., PhD)
23
24
    \acdegree{Master of Science in Applied Physics}
25
26
   \committee{{Dr. I. M. Smart\\Chair},
27
          {Dr. M. E. Too\\Member},
28
          {Maj S. D. Sharp, PhD\\Member}}
29
30
   \address(2950 Hobson Way\\ Air Force Institute of Technology \\
31
   Wright-Patterson AFB, OH 45433}
32
    \distribution{DISTRIBUTION STATEMENT A\V-10ptl
33
   WakeUppercase(Approved for Public Release; distribution unlimited.)
34
35
36
   \disclaimer{The views expressed in this document are those of the
37
   author and do not reflect the official policy or position of the
38
   United States Air Force, the United States Department of Defense or
39
   the United States Government. This material is declared a work of the
   U.S. Government and is not subject to copyright protection in the
41
   United States.}
42
43
   % International students may consider using the following disclaimer
   % statement: \dislaimer{The views expressed in this document are those
   % of the author(s) and do not reflect the official policy or position
   % of the United States Air Force, Department of Defense, United States
   % Government, the corresponding agencies of any other government,
49
   % NATO, or any other defense organization.}
50
```

Figure 3. Enter student data in titlePage.tex to customize the document's first pages.

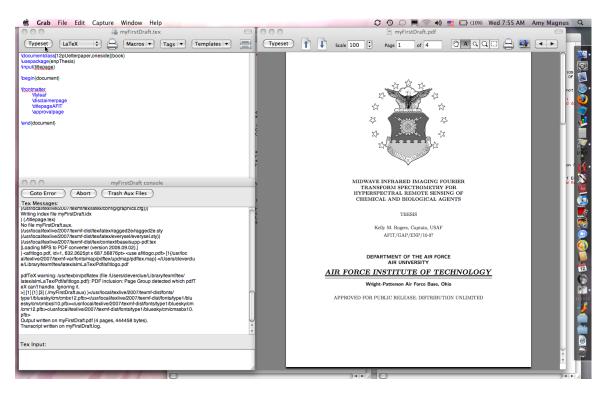


Figure 4. Here we have compiled the first four page of a thesis.

```
000
                                                                                    myFigures.tex
%% myFigures.tex
% A common file to store all figure definitions
In preparing your thesis, one of the first things you should do is % organize your figures. Then, one of the last things you'll do is % reorder your figures so they display where you want them to in the % text. Organizing figure definitions in a common files helps:
         1. Write new figures using earlier examples.
         2. Isolate code and minimize the risk of introducing bugs in the
          final editing process. Trust me, moving around just one line of
         code is easier.
          3. Reuse figures in other papers. <=== the best reason!
% Note command names can not include numbers and special characters.
% To make the file more searchable, use naming conventions that map
% the graphics filename labSetup.jpg to the command name \figlabSetup to the
% figure label fig:labSetup.
 \newcommand{\figMyFirstLaTeX}{\begin{figure}[tbp]
    \begin{center}
           \frac{\includegraphics[width=6in]{myFirstLaTeXCursor}}{\caption[\LaTeX a very simple document]{Compile a very simple document.}
             \label{fig:MyFirstLaTeX}
    \end{center}
 \end{figure}
 \newcommand{\figenpStyle}{\begin{figure}[tbp]
    \begin{center}
           \frac{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\includegraphics}{\inclu
             thesis style file.}
\label{fig:enpStyle}
    \end{center}
 \end{figure}
 \newcommand{\figtitlePage}{\begin{figure}[tbp]
    \begin{center}
           \(\sincludegraphics\)[width=2.9in]{titlePage}
              caption{Enter student data in titlePage.tex to customize the
             document's first pages.}
              \label{fig:titlePage}
   \end{center}
 \end{figure}
 \newcommand{\figmyFlypage}{\begin{figure}[tbp]
    \begin{center}
           \[ \includegraphics [width=6in] \{ myFlypage \}
              caption{Here we have compiled the first four page of a thesis.}
             \label{fig:myFlypage}
    \end{center}
 \end{figure}
```

Figure 5. Consider defining all your figures in one file.

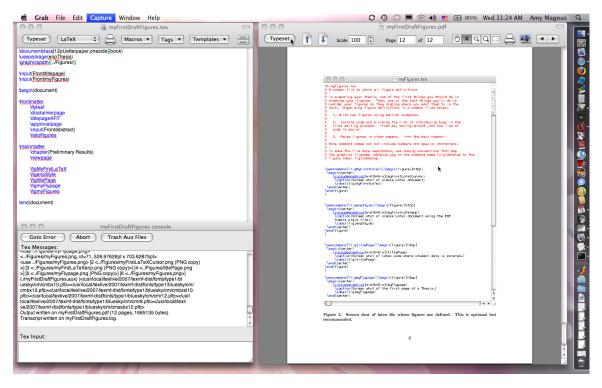


Figure 6. Add figures in the main matter of your document; fill in the document around your graphics.