

The mines-thesis class *

Ming Li[†] Jian Lin

January 8, 2020

Abstract

This package provides a class for graduate students at Colorado School of Mines to prepare their theses and dissertations.

Contents

1	User's guide	2
1.1	Installation	2
1.2	Invocation and options	2
1.3	Preprogrammed Formats	2
2	Implementation	4
2.1	Declaration of Options	4
2.2	Execution of Options	4
2.3	Package Loading	4
2.4	Main Code	4
2.4.1	Commands to define parameters for the front matter	4
2.4.2	Front Matter	5

*This document corresponds to mines-thesis v1.0, dated 2020/01/10.

[†]mili@mymail.mines.edu

1 User's guide

1.1 Installation

1.2 Invocation and options

`\documentclass` The mines-thesis class is invoked in the standard fashion.

```
\documentclass[\langle options \rangle]{mines-thesis}
```

There are several options corresponding to the type of the document and its general appearance. They are described below. Generally speaking, the options have `key=value` forms, for example,

```
\documentclass[screen=true, review=false]{mines-thesis}
```

The default options are `letterpaper,10pt. TODO review? oneseide? onecol-umn,draft,openany`

1.3 Preprogrammed Formats

```
\title
\author
\year
\degree
\advisor
\coadvisor
\department
\departmenthead
abstract
```

The environment `abstract` must *precede* the `\makefrontmatter` command. Again, this is different from the standard L^AT_EX. Putting `abstract` after `\makefrontmatter` will trigger an error.

```
\begin{abstract}
Here goes the abstract...
\end{abstract}
```

`\makefrontmatter` The front matter of a thesis includes:

1. Title page (Required)
2. Copyright page
3. Submittal page (Required)
4. Abstract (Required)
5. Table of Contents (Required)
6. Lists (Required if included in thesis)
 - (a) List of Figures

- (b) List of Tables
- (c) List of Equations (optional)
- (d) List of Plates
- (e) List of Symbols

7. Acknowledgments

8. Dedication

Invoking

`\makefrontmatter`

will generate all components listed above. It can be commented out until you need the front matter generated.

`\chapter`
`\section`
`\subsection`
`\subsubsection`
`\paragraph`

2 Implementation

```
1 \RequirePackage{ifthen}
```

The `review` boolean is defined here for use with the class options.

```
2 \newboolean{review}
```

2.1 Declaration of Options

```
3 \DeclareOption{draft}{\setboolean{review}{true}}
```

```
4 \DeclareOption{final}{\setboolean{review}{false}}
```

```
5 \PassOptionsToClass{letterpaper,12pt,oneside,onecolumn,final,openany}{report}}
```

```
6 \DeclareOption*
```

```
7 \PassOptionsToClass{\CurrentOption}{memoir}
```

```
8 }
```

```
9 \ExecuteOptions{draft,letterpaper,12pt}
```

2.2 Execution of Options

```
10 \ProcessOptions\relax
```

2.3 Package Loading

```
11 \LoadClassWithOptions{memoir}
```

2.4 Main Code

2.4.1 Commands to define parameters for the front matter

```
12 \newboolean{auto} % for auto pyramid
```

```
13 \setboolean{auto}{false}
```

```
14 \def\year#1{\gdef\@year{#1}}
```

```
15 \def\degree#1#2{\gdef\@degree#1{\@degree#2}}
```

```
16 \def\advisor#1{\gdef\@advisor{#1}}
```

```
17 \def\coadvisor#1{\gdef\@coadvisor{#1}}
```

```
18 \def\department#1{\gdef\@department{#1}}
```

```
19 \def\departmenthead#1{\gdef\@departmenthead{#1}}
```

The following are the initial values for some macros that provide info.

```
20 \gdef\@author{Your Name}
```

```
21 \gdef\@title{This is the first line of a medium length title,
```

```
22 this is the second line}
```

```
23 \gdef\@year{2020}
```

```
24 \gdef\@degree#1{Doctor of Philosophy}
```

```
25 \gdef\@degree#1{Geophysical Engineering}
```

```
26 \gdef\@advisor{Dr. Main Advisor}
```

```
27 \gdef\@coadvisor{Dr. Co Advisor}
```

```
28 \gdef\@department{Department of Some Name}
```

```
29 \gdef\@departmenthead{Dr. Department Head}
```

Set margins

```
30 % ^^A automatically set by the class option letterpaper
```

```
31 % ^^A \setstocksize{11in}{8.5in}
```

```
32 % ^^A set paper size equal to stock size
```

```

33 % ^^A\settrimmedsize{\stockheight}{\stockwidth}{*}
34 % ^^A set equal trim at the top and bottom
35 % ^^A \setlength{\trimtop}{\stockheight} % \trimtop = \stockheight
36 % ^^A \addtolength{\trimtop}{-\paperheight} % - \paperheight
37 % ^^A \setlength{\trimedge}{\stockwidth} % \trimedge = \stockwidth
38 % ^^A \addtolength{\trimedge}{-\paperwidth} % - \paperwidth
39 % ^^A \settrims{0.5\trimtop}{\trimedge}
40 \setpageecc{11in}{8.5in}{*}
41 % ^^A \settypeblocksize{\paperheight}{\paperwidth}{*}
42 \setlrmarginsandblock{1in}{*}{*}
43 \setulmarginsandblock{1in}{*}{*}
44 \setheadfoot{\onelineskip}{2\onelineskip}
45 \setheaderspaces{*}{2\onelineskip}{*}
46 \DoubleSpacing
47 \checkandfixthelayout
48

```

2.4.2 Front Matter

\makefrontmatter

```

49 \newcommand{\makefrontmatter}{
50   \pagenumbering{roman}
51   \pagestyle{empty}
52   \maketitlepage
53   \pagestyle{empty}
54   \makecopyrightpage
55   \pagestyle{plain}
56   \newpage
57   \pagenumbering{arabic}
58   \setcounter{page}{1}
59 }

```

\maketitlepage

The thesis title must be in all upper case letters, be centered on the page both horizontally and vertically, be in an inverted pyramid shape and the font size needs to be the same size as all other font in the main text (i.e. do not make the font size larger).

```

60 \DeclareRobustCommand{\invpyr}[1]{
61   \vbox{
62     \hsize=\textwidth
63     \parindent=0pt
64     \emergencystretch=1in
65     \parshape 6
66     0.01\textwidth .98\textwidth
67     0.1\textwidth .8\textwidth
68     0.15\textwidth .7\textwidth
69     0.2\textwidth .6\textwidth
70     0.25\textwidth .5\textwidth
71     0.3\textwidth .4\textwidth
72     \leftskip=0pt plus 1fil
73     \rightskip=0pt plus -1fil

```

```

74     \parfillskip=0pt plus 2fil
75     #1\par
76 }
77 }
78 \newcommand{\autopyramid}{\setboolean{auto}{true}}
79 \newcommand{\maketitlepage}{
80     \clearpage
81     \vspace*{\fill}
82     \begin{center}
83     \begin{minipage}{\textwidth}
84     \centering
85     \ifthenelse{\boolean{auto}}
86     {\invpyr{\MakeUppercase{@title}}}
87     {@title}
88     \end{minipage}
89     \end{center}
90     \vspace{\fill}
91     \begin{center}
92     by\\
93     \@author
94     \end{center}
95     \clearpage
96 }

```

`\makecopyrightpage` The thesis title must be in all upper case letters, be centered on the page both horizontally and vertically, be in an inverted pyramid shape and the font size needs to be the same size as all other font in the main text (i.e. do not make the font size larger).

```

97 \newcommand{\makecopyrightpage}{
98     \clearpage
99     \vspace*{\fill}
100    \begin{center}
101    \begin{minipage}{.8\textwidth}
102    \centering
103        Copyright~by~\@author~\@year\\
104        All~Rights~Reserved
105    \end{minipage}
106    \end{center}
107    \vspace{\fill}
108    \clearpage
109 }

```