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

---

[*]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[⟨options⟩]{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? oneside? onecolumn,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 LATEX. 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 commentted 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\@degreelv{#1}\@degreename{#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{Title of the Thesis}
22 \gdef\@year{2020}
23 \gdef\@degreelv{Doctor of Philosophy}
24 \gdef\@degreename{Geophysical Engineering}
25 \gdef\@advisor{Dr. Main Advisor}
26 \gdef\@advisor{Dr. Co Advisor}
27 \gdef\@department{Department of Some Name}
28 \gdef\@departmenthead{Dr. Department Head}
```

Set margins

```
29 % ^^A automatically set by the class option letterpaper
30 % ^^A \setstocksize{11in}{8.5in}
31 % ^^A set paper size equal to stock size
32 % ^^A\settrimmedsize{\stockheight}{\stockwidth}{*}
```

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

2.4.2 Front Matter

\makefrontmatter

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

\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).

```
59 \newcommand{\invertedpyramid}{%
60 {0}            %line center at x=7
61 {0}  b{0}\\    % text starts at (0,0)
62 {0}  t{-10}{20}\\ % Line at y=0 starts at x=0 with length 14
63 {3} t{-5}{10}\\  % Line at y=10 starts at x=0 with length 14
64 {3} e{5}       % text ends at (7,15)
65 }
66 \newcommand{\autopyramid}{\setboolean{auto}{true}}
67 \newcommand{\maketitlepage}{
68   \clearpage
69 \vspace*{\fill}
70 \begin{center}
71 \begin{minipage}{.8\textwidth}
72 \centering
73 \ifthenelse{\boolean{auto}}{\shapepar{\invertedpyramid}}{hello}
```

5

```
74        \MakeUppercase{\@title}
75 \end{minipage}
76 \end{center}
77   \vspace{\fill}
78   \begin{center}
79 by\\
80     \@author
81 \end{center}
82 \clearpage
83 }
```

\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).

```
84 \newcommand{\makecopyrightpage}{
85   \clearpage
86 \vspace*{\fill}
87 \begin{center}
88 \begin{minipage}{.8\textwidth}
89 \centering
90     Copyright~by~\@author~\@year\\
91     All~Rights~Reserved
92 \end{minipage}
93 \end{center}
94 \vspace{\fill}
95 \clearpage
96 }
```