

The mines-thesis class *

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Abstract

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

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

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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\@degreeelv{#1}\@degreegreenname{#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\@degreeelv{Doctor of Philosophy}
```

```
24 \gdef\@degreegreenname{Geophysical Engineering}
```

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

```
26 \gdef\@coadvisor{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{\trimedg}{\stockwidth} % \trimedg = \stockwidth
37 % ^^A \addtolength{\trimedg}{-\paperwidth} % - \paperwidth
38 % ^^A \settrims{0.5\trimtop}{\trimedg}
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{\invpyr}[1]{
67 \vbox{
68   \hsize=\textwidth
69   \parindent=0pt
70   \emergencystretch=1in
71   \parshape 6
72   0.05\textwidth .9\textwidth
73   0.1\textwidth .8\textwidth

```

```

74 0.15\textwidth .7\textwidth
75 0.2\textwidth .6\textwidth
76 0.25\textwidth .5\textwidth
77 0.3\textwidth .4\textwidth
78 \leftskip=0pt plus 1fil
79 \rightskip=0pt plus -1fil
80 \parfillskip=0pt plus 2fil
81 #1\par
82 }
83 }
84 \newcommand{\autopyramid}{\setboolean{auto}{true}}
85 \newcommand{\maketitlepage}{
86 \clearpage
87 \vspace*{\fill}
88 \begin{center}
89 \begin{minipage}{\textwidth}
90 \centering
91 % ^^A \ifthenelse{\boolean{auto}}{\shapepar{\invertedpyramid}}{}
92 \MakeUppercase{Thesis title centered on the page vertically\\ and horizontally,\\
93 in all upper case letters and in an inverted\\ pyramid shape $\frac{2^{15}}{\pi}$}
94 \end{minipage}
95 \end{center}
96 \vspace{\fill}
97 \begin{center}
98 by\\
99 \@author
100 \end{center}
101 \clearpage
102 }

```

`\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).

```

103 \newcommand{\makecopyrightpage}{
104 \clearpage
105 \vspace*{\fill}
106 \begin{center}
107 \begin{minipage}{.8\textwidth}
108 \centering
109 Copyright~by~\@author~\@year\\
110 All~Rights~Reserved
111 \end{minipage}
112 \end{center}
113 \vspace{\fill}
114 \clearpage
115 }

```