

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

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

```
1 \RequirePackage{ifthen}
2 \RequirePackage{calc}
3 \RequirePackage{makeidx}
4 \newboolean{review}
```

2.1 Declaration of Options

```
5 \DeclareOption{draft}{\setboolean{review}{true}}
6 \DeclareOption{final}{\setboolean{review}{false}}
7 \PassOptionsToClass{letterpaper,12pt,oneside,onecolumn,openany}{memoir}}
8 \DeclareOption*{
9   \PassOptionsToClass{\CurrentOption}{memoir}
10 }
11 \ExecuteOptions{draft}
```

2.2 Execution of Options

```
12 \ProcessOptions\relax
```

2.3 Package Loading

```
13 \LoadClassWithOptions{memoir}
```

2.4 Main Code

`\spacing` Redefine `\baselinestretch` and recompute `\baselineskip` lateral effect: set typeface to normal size roman

```
14 \newcommand{\spacing}[1]{\renewcommand{\baselinestretch}{#1}}
```

2.4.1 Commands to define parameters for the front matter

```
15 \def\year#1{\gdef\@year{#1}}
16 \def\degree#1#2{\gdef\@degreeelv{#1}\@degreename{#2}}
17 \def\advisor#1{\gdef\@advisor{#1}}
18 \def\coadvisor#1{\gdef\@coadvisor{#1}}
19 \def\department#1{\gdef\@department{#1}}
20 \def\departmenthead#1{\gdef\@departmenthead{#1}}
```

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

```
21 \gdef\@author{Your Name}
22 \gdef\@title{Title of the Thesis}
23 \gdef\@year{\year}
24 \gdef\@degreeelv{Doctor of Philosophy}
25 \gdef\@degreename{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 \setpagecc{5in}{3in}{*}

2.4.2 Front Matter

\makefrontmatter

```

31 \def\makefrontmatter{
32   \pagestyle {empty}
33   \pagenumbering {roman}
34   \maketitlepage
35   \pagestyle {empty}
36   \makecopyrightpage
37   \setcounter {page} {3}
38   \makeabstract
39   \pagestyle {fancy}
40   \ifdefined {@dedication}{\makededication}
41   \ifdefined {@acknowledgements}{\makeacknowledgements}
42   \tableofcontents
43   \ifthenelse{\boolean{hastables}}{\\listoftables}{}
44   \ifthenelse{\boolean{hasfigures}}{\\listoffigures}{}
45   \newpage
46   \pagenumbering {arabic}
47   \setcounter {page}{1}}

```

\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).

```

48 \def\maketitlepage{
49 \clearpage
50 \vspace*{\fill}
51 \centering
52 \begin{minipage}{.6\textwidth}
53   \MakeUppercase{\@title}
54 \end{minipage}
55 \vfill % equivalent to \vspace{\fill}
56 by\
57 \@author
58 \clearpage
59 }

```

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Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.

adviser= \subitem *+ \adviser, 17 fetch= \subitem *+ \baselinestretch*+ \begin, 52

```

boolean=      \subitem **\boolean+43, 44 \subitem **\ProcessOptionsToClass+44 \subitem **\PassOptions+
centering=    \subitem **\centering+51 \subitem **\listoffigures+44 \subitem **\ProcessOptions+
clearpage=    \subitem **\clearpage+49, 50 \subitem **\listoftables+46 \subitem **\relax+12
coadvisor=    \subitem **\LoadClassWithOptions= \subitem **\LoadClassWithOptions+newcommand+,
CurrentOption= \subitem **\CurrentOption+, 9 RequirePackage= \subitem **\RequirePackage+
makeabstract= \subitem **\makeabstract+, 38
DeclareOption= \subitem **\DeclareOption+, 5, 6 \subitem **\makeacknowledgements+41, 5, 6
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degree=       \subitem **\degree+16 \subitem **\make dedication+40 \subitem **\setpagecc+, 30
department=   \subitem **\department+49 \subitem **\makefrom+49 \subitem **\spacing+81 \subitem **\main{14}
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gdef=         \subitem **\gdef+pagesty+29 \subitem **\pagestyle+subitem **\year+, 15, 23

```