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.

Contents

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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[⟨*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 \newcommand{\degree}[2]{\gdef\@degreelv{#1}\gdef\@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{This is the first line of a  medium length title,
22 this is the second line}
23 \gdef\@year{2020}
24 \gdef\@degreelv{Doctor of Philosophy}
25 \gdef\@degreename{Computer Science}
26 \gdef\@advisor{Dr. Main Advisor}
27 % ^^A \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 \setpagecc{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 \setcounter {page} {2}
57 \makesubmittalpage
58 \clearpage
59 \pagenumbering{arabic}
60    \setcounter{page}{1}
61 }
```

`\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).

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

```
74     \leftskip=0pt plus 1fil
75     \rightskip=0pt plus -1fil
76     \parfillskip=0pt plus 2fil
77     #1\par
78 }
79 }
80 \newcommand{\autotitle}{\setboolean{auto}{true}}
81 \newcommand{\maketitlepage}{
82 \clearpage
83 \begin{vplace}
84 \centering
85 \ifthenelse{\boolean{auto}}
86 {\invpyr{\MakeUppercase{\@title}}}
87 {\@title}
88 \end{vplace}
89   \begin{center}
90 by\\
91     \@author
92 \end{center}
93 \clearpage
94 }
```

\makecopyrightpage   Copyright Page. This is an optional page that follows the title page. No displayed page number, centered upper and lower case text.

```
95 \newcommand{\makecopyrightpage}{
96 \clearpage
97 \begin{vplace}[0.8]
98 \centering
99 Copyright~by~\@author~\@year\\
100 All~Rights~Reserved
101 \end{vplace}
102 \clearpage
103 }
```

\makesubmittalpage   Submittal Page. This is a required page that displays the Roman numeral ii page number. Beginning with this page, front matter Roman numeral page numbers are centered 1/2 inch from the bottom edge of page. All signatures are required before the final thesis format review.

```
104 \newcommand{\makesubmittalpage}{
105 \clearpage
106 A thesis submitted to the Faculty and the Board of
107 Trustees of the Colorado School of Mines in partial
108 fulfillment of the requirements for the degree of
109 {\@degreelv} ({\@degreename}).
110
111 \vspace{2em}
112 \begin{flushleft}
113 Golden, Colorado\\[.5em]
114 Date \underline{\hspace{2in}}
```

```
115 \end{flushleft}
116
117 \vspace{.5em}
118 \begin{flushright}
119 Signed: \underline{\hspace{2in}}\\
120 {\@author}\\[2em]
121
122 Signed: \underline{\hspace{2in}}\\
123 \begin{SingleSpace}
124 {\@advisor}\\
125 Thesis Advisor\\[2em]
126 \end{SingleSpace}
127
128
129 \@ifundefined{@coadvisor}
130 {
131 \vspace{2.5em}
132 }
133     {
134 Signed: \underline{\hspace{2in}}\\
135 \begin{SingleSpace}
136 {\@coadvisor}\\
137 Thesis Advisor
138 \end{SingleSpace}
139     }
140
141 \end{flushright}
142
143 \begin{flushleft}
144 Golden, Colorado\\[.5em]
145 Date \underline{\hspace{2in}}
146 \end{flushleft}
147
148 \vspace{.5em}
149 \begin{flushright}
150 Signed: \underline{\hspace{2in}}\\
151
152 \begin{SingleSpace}
153 {\@departmenthead}\\
154 Professor and Head\\
155 {\@department}
156 \end{SingleSpace}
157
158 \end{flushright}
159
160 \clearpage
161 }
```

\makeabstractpage   ABSTRACT (title) is centered horizontally, 1 keyboard return below 1 inch top
margin and in ALL UPPER CASE LETTERS. Each paragraph should be in-

dented.

```
162 \newcommand{\makeabstractpage}{
163 \clearpage
164
165 \clearpage
166 }
```