The uiucthesis2021 class*

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Abstract

A LATEX2e document class to produce a document intended to conform to the format described in the UIUC Graduate College thesis requirements.

1 Using the class

Load the uiucthesis2021 class at the beginning of your LATEX document with the \documentclass command. The included template thesis.tex file illustrates usage (including proper ordering of elements, etc.).

1.1 The Title Page

The \maketitle command is redefined so that it creates a title page with the correct format for a thesis at UIUC.

\phdthesis
\msthesis
\department

Use the \phdthesis or \msthesis to set the correct thesis type. The default thesis type is \phdthesis.

ege

Set your department in which your degree will be with $\department \department \department \department \department \department of:"$

\college

Define your college with \college{\langle college}}. The default is college is "Graduate College"; you shouldn't need to change it.

\concentration \minor \degreeyear Use to specify the name of your concentration or minor (the appropriate lines will only appear if defined).

\committee

Use $\degreeyear{\langle year \rangle}$ to define the year in which you will receive your degree. The default is the current year.

Use $\{\text{committee } members\}$ } to specify the members of your committee and their titles as you want them to appear on the title page. Separate members with $\$. To respect the graduate college guidelines, you must use the

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[†]This version was adapted from Stephen Mayhew's edit of the version by Charles Kiyanda which itself was adapted from version 2.25, 2005/03/25 by Peter Czoschke and updated in 2007 by Tim Head. It was significantly simplified for the (apparently less restrictive) 2021 requirements and a number of no-longer-relevant options were removed. As many stylistic features/options (i.e., those not specified by the requirements) were removed as possible, the idea being these are more easily controlled by user-created style files.

full title of each committee members. The committee chair should appear first with the designation ", Chair". Your thesis adviser should appear second with the title ", Director of Research". See the graduate college website for details.

1.2 Front Matter

\frontmatter

Typically, a thesis might have an abstract, a dedication, and acknowledgments before the table of contents. Use the \frontmatter command to start this preliminary section of the thesis, which sets the page number of the next page to roman numeral ii.

abstract

The abstract should appear in the abstract environment. This just produces another chapter with \chapter*{\abstractname}, where \abstractname is "Abstract" (see User Customization below).

dedication

A dedication page can be printed with the dedication environment. This produces a separate page with the dedication centered horizontally and vertically, with the text in italics.

acknowledgments

Analagous to abstract.

After this front matter comes the Table of Contents, List of Tables, List of Figures, etc. Use the standard LATEX commands \tableofcontents, \listoftables, \listoffigures, etc., to generate them. In the uiucthesis2021 format these lists are all single spaced.

symbollist
abbrevlist

Optionally, these tables can be followed by a List of Abbreviations and/or List of Symbols. Introduce these with the \chapter command. To aid in making these lists, the symbollist and abbrevlist produce a two-column list as illustrated below. By default the left column is 1 inch wide but can be specified with an optional argument.

1.3 Main Matter

\mainmatter

Begin the main body of your thesis with the \mainmatter command, which resets the page number to arabic numeral 1. You can now use any of the commands defined by the the book document class to write your thesis.

1.4 Reference Matter

\appendix

To switch from the body of your thesis to the reference material at the end, use the standard LATEX \appendix command.

1.5 Back Matter

\backmatter

The last few chapters in your thesis should not have chapter numbers, but should be listed in the Table of Contents. These chapters include the Bibliography and the Index. LaTeX's \backmatter command accomplishes this.

2 User Customization

The uiucthesis2021 class loads setspace for the line spacing commands and enables \onehalfspacing (the minimum required). This default may be overridden within the document body.

The table of contents depth is set to include only chapters (the Graduate College's stated preference). Override by calling \setcounter{tocdepth}{\meta{depth}} again with depth argument 1, 2, etc., to include sections, subsections, etc.

No special format is implemented for chapter headings by default.

\nocopyrightpage

Put the \nocopyrightpage macro in the preamble to disable the default copyright notice page.

```
1 (*class | package)
```

3 Implementation

This section shows the implementation of the uiucthesis2021 class. Unless you are interested in the details of how uiucthesis2021 works, you probably don't need to read it.

First instruct setspace to use \onehalfspacing by default. Load the book class with the [oneside] and [letterpaper] options.

```
2 (*class)
3 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{book}}
4 \PassOptionsToClass{letterpaper,oneside}{book}
5 \ProcessOptions
6 \LoadClass{book}
7 (/class)
8 \usepackage[onehalfspacing]{setspace}
```

3.1 Title Page

\title Override the standard definitions of \title and \author to also define uppercased \author versions.

```
9 \def\@mkuptitle#1{\gdef\@Utitle{#1}}
              10 \def\title#1{\gdef\@title{#1}\MakeUppercase{\protect\@mkuptitle{#1}}}
              11 \def\@mkupauthor#1{\gdef\@Uauthor{#1}}
              12 \def\author#1{\gdef\@author{#1}\MakeUppercase{\protect\@mkupauthor{#1}}}
             Macros to set title page elements.
 \phdthesis
  \msthesis
              13 \def\phdthesis{\def\@degree{Doctor of Philosophy}
\department
                    \def\degree{Ph.D.}
  \college
                    \def\@thesisname{DISSERTATION}
              15
                    \def\@committeename{Doctoral Committee:}
              16
\degreeyear
              17
 \committee
              18 \def\msthesis{\def\@degree{Master of Science}
                     \def\degree{M.S.}
              19
                    \def\@thesisname{THESIS}
              20
```

```
21
                                                                      \def\@committeename{Master's Committee:}
                                                                     }
                                                    22
                                                    23 \def\department#1{\def\dept{#1}}
                                                    24 \def\concentration#1{\def\@concentration{#1}}
                                                    25 \def\minor#1{\def\\minor{#1}}
                                                    26 \ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt{\college#1}}\ensuremath{\texttt
                                                    27 \def\degreeyear#1{\def\@degreeyear{#1}}
                                                    28 \newcommand{\committee}[1]{\gdef\@committee{#1}}
\copyrightnotice
                                                 Define the copyright notice as a macro so that the user can change it if desired.
                                                    29 \def\copyrightnotice{\copyright~\@degreeyear~ \@author}
                                                  The printing of the copyright page can also be turned off with the \nocopyrightpage
\nocopyrightpage
                                                  command (must come before \maketitle):
                                                    30 \newif\if@thesiscrpage \@thesiscrpagetrue
                                                    31 \let\nocopyrightpage\@thesiscrpagefalse
                                                           Set the default title page elements.
                                                    32 \ \ bdthesis
                                                    33 \college{Graduate College}
                                                    34 \def\@degreeyear{\number\year}
                \maketitle
                                                 Redefine book's \maketitle command to produce the titlepage in the correct
                                                  format.
                                                    35 \renewcommand\maketitle{
                                                  Print the copyright page if we're supposed to.
                                                                      \if@thesiscrpage
                                                    37
                                                                                 \newpage
                                                                                 \thispagestyle{empty}
                                                    38
                                                                                 \null\vfill
                                                    39
                                                                                 \centerline{\copyrightnotice}%
                                                    40
                                                                                 \vskip 3ex % skip to visually center copyright notice
                                                    41
                                                    42
                                                                                 \vfill
                                                    43
                                                                      \fi
                                                  Now start a new page for the title page. It is single-spaced.
                                                    44
                                                                      \newpage
                                                                      \thispagestyle{empty}%
                                                    45
                                                                      \enlargethispage{1in}%
                                                    46
                                                                      \begingroup
                                                    47
                                                                      \def\baselinestretch{1}
                                                  Check what size font we are using for the text and select a smaller size appropri-
                                                  ately.
                                                    49
                                                                      \ifnum \@ptsize=2
                                                    50
                                                                                 \@normalsize
                                                                                 \newcommand{\thesis@small}{\small}
                                                    51
                                                    52
                                                                      \else
                                                    53
                                                                                 \large
```

```
54 \newcommand{\thesis@small}{\@normalsize} 55 \fi
```

We have to be careful to get the vertical position right. The easiest way to do this seems to be to just set \topmargin, \headheight, and \headsep for this page.

```
56 \headheight=0pt \headsep=0pt
57 \topmargin=0in
```

Adjust the horizontal spacing so that the title page is centered on the page even if the rest of the document isn't. I'm not sure when \textwidth changes take place, so instead we calculate the correct \oddsidemargin to center the text column.

```
\( \text{\text{0}} \text{\text
```

Create the title page as specified by the Grad College.

```
65
      \newdimen\thesis@dim
      \thesis@dim=1.5in
66
      \newdimen\ct@dim
67
      \newdimen\cn@dim
      \ct@dim=\oddsidemargin
      \advance\ct@dim by -0.3125in
70
      \cn@dim=\oddsidemargin
71
      \advance\cn@dim by -0.6875in
72
      \def\lc@selectfont{}%
73
      \begin{center}
74
75
      \vbox to 1in{}
      \vbox to \thesis@dim{%
76
          {\lc@selectfont\@Utitle}
77
78
          \vfil}%
      \v 0.5in{%
79
          {\lc@selectfont BY}\\[12pt]
80
81
          \vfil}%
82
      \vbox to 1.5in{\%}
          {\lc@selectfont\@Uauthor}\\[12pt]
83
          \vfil}%
84
      \vbox to 2.0in{%
85
          {\color=0.05$}\color=0.05$
86
          Submitted in partial fulfillment of the requirements\\
87
          for the degree of \@degree\ in \@dept\\
88
          \ifdefined\@concentration
89
              with a concentration in \@concentration\\
90
91
          \fi
92
          \ifdefined\@minor
              with a minor in \@minor\\
93
94
          \fi
          in the \@college\ of the\\
```

```
University of Illinois Urbana-Champaign, \@degreeyear\vfil}%
96
       \vskip -1.5ex%
97
       \vbox to 0.4in{\%}
98
       Urbana, Illinois}%
99
       \end{center}
100
101 \begin{flushleft}
102
            \wo to 0.3in{%
            \hspace{-\ct@dim}\@committeename\\}
103
104
            \hspace{-\cn@dim}\begin{tabular}{1}\@committee\end{tabular}\vfil
105 \end{flushleft}
106
       \newpage
107
       \endgroup
108 }
```

3.2 Front Matter

\frontmatter

Redefine \frontmatter so that it sets the page number to 2.

```
109 \let\thesis@frontmatter=\frontmatter
```

110 \def\frontmatter{%

111 thesis@frontmatter

112 \setcounter{page}{2}}

3.3 Table of Contents

\contentsname

Title with "Table of Contents" instead of "Contents".

113 \RequirePackage[english]{babel}

114 \addto{\captionsenglish}{\renewcommand*{\contentsname}{Table of contents}}

\tableofcontents

We want the Table of Contents to be single-spaced, so we save the original definition, and then arrange it so that the new \tableofcontents calls \singlespacing before calling the original definition.

115 \let\thesis@tableofcontents=\tableofcontents

116 \def\tableofcontents{{\singlespacing\thesis@tableofcontents}}

Set the table of contents entries to "Chapter X" and "Appendix Y" in the appropriate places and include leader dots.

```
117 \RequirePackage{titletoc}
```

118 \titlecontents{chapter}%

119 [Opt]%

120 {\vspace{1ex}}%

121 {\bfseries\chaptername~\thecontentslabel\quad}%

122 {\bfseries}%

123 {~\mdseries\titlerule*[0.5em]{.}\bfseries\contentspage}

124 \g@addto@macro{\appendix}{%

125 \titlecontents{chapter}%

126 [Opt]%

127 {\vspace{1ex}}%

128 {\bfseries\appendixname~\thecontentslabel\quad}%

129 {\bfseries}%

```
{~\mdseries\titlerule*[0.5em]{.}\bfseries\contentspage}
                 131 }
                 Set the table of contents depth to 0, corresponding to the Graduate College's
                 preferred inclusion of chapters only.
                 132 \setcounter{tocdepth}{0}
                 Similarly, redefine \listoftables and \listoffigures so that they use single
 \listoftables
                 spacing and add entries to the table of contents.
\listoffigures
                 133 \let\thesis@listoftables=\listoftables
                 134 \def\listoftables{\newpage%
                         \addcontentsline{toc}{chapter}{\listtablename}%
                 135
                         {\singlespacing\thesis@listoftables}}
                 136
                 137 \let\thesis@listoffigures=\listoffigures
                 138 \def\listoffigures{\newpage%
                 139
                         \addcontentsline{toc}{chapter}{\listfigurename}%
                 140
                         {\singlespacing\thesis@listoffigures}}
                 3.4
                        Other Frontmatter
       abstract Define the abstract environment.
                 141 \newenvironment{abstract}{\chapter*{\abstractname}}{}
    dedication The dedication environment just starts a new page and prints the dedication in
                 the center in italics.
                 142 \newenvironment{dedication}{
                         \newpage
                 143
                 144
                         \leavevmode\vfill
                 145
                         \begin{center}
                 146
                         \itshape
                 147
                        }{
                         \end{center}
                 148
                         \vskip 3ex
                 149
                         \vfill
                 150
                 151
                         \newpage
acknowledgments Define the acknowledgments environment.
                 153 \newenvironment{acknowledgments}{\chapter*{Acknowledgments}}{}
                The symbollist environment can be used to create a list of symbols with the left
    symbollist
                 column centered (for symbols). The abbrevlist environment has the left column
    abbrevlist
                 left-justified (for abbreviations).
                 154 \newenvironment*{symbollist}[1][1in]{
                         \begin{list}{}{\singlespacing
                 155
                 156
                          \setlength{\leftmargin}{#1}
```

\setlength{\labelwidth}{#1}

\setlength{\topsep}{0in}}%

\addtolength{\labelwidth}{-\labelsep}

 $157 \\ 158$

159

3.5 Page Numbering

Page numbers must be in one of three places, and must appear in the same place on *every page*, including chapter openings.

\ps@plain

```
167 \RequirePackage{geometry}
168 \geometry{letterpaper}
169 \geometry{margin=1in}
170 \RequirePackage{fancyhdr}
171 % https://tex.stackexchange.com/a/33877
172\,\% Redefine plain style, which is used for titlepage and chapter beginnings
173 % From https://tex.stackexchange.com/a/30230/828
174 fancypagestyle{plain}{%}
       \renewcommand{\headrulewidth}{0pt}%
175
176
       \fancyhf{}%
177
       \fancyfoot[C]{\thepage}%
178 }
179 \pagestyle{plain}
```

3.6 Body Formatting

To set up the actual formatting for the front matter of the thesis, simplify specify roman page numbering.

```
180 \pagenumbering{roman}
181 \ \langle / class \mid package \rangle
```