The uiucthesis2021 class[*]

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Abstract

A LaTeX2e documentclass 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`
Use the `\phdthesis` or `\msthesis` to set the correct thesis type. The default thesis type is `\phdthesis`.

`\department`
Set your department in which your degree will be with `\department{⟨department⟩}`, leaving out "Department of."

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

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

`\degreeyear`
Use `\degreeyear{⟨year⟩}` to define the year in which you will receive your degree. The default is the current year.

`\committee`
Use `\committee{⟨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 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.

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[*]This file describes version v3.1, last revised 2021/09/01.

[†]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.

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 copy-

right 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}}}
```

\phdthesis Macros to set title page elements.
\msthesis
\department
\college
\degreeyear
\committee

```
13 \def\phdthesis{\def\@degree{Doctor of Philosophy}
14     \def\degree{Ph.D.}
15     \def\@thesisname{DISSERTATION}
16     \def\@committeename{Doctoral Committee:}
17     }
18 \def\msthesis{\def\@degree{Master of Science}
19     \def\degree{M.S.}
20     \def\@thesisname{THESIS}
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 \def\college#1{\def\@college{#1}}
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}
```

\nocopyrightpage The printing of the copyright page can also be turned off with the `\nocopyrightpage`
command (must come before `\maketitle`):

```
30 \newif\if@thesiscrpage \@thesiscrpagetrue
31 \let\nocopyrightpage\@thesiscrpagefalse
```

Set the default title page elements.

```
32 \phdthesis
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.

```
36     \if@thesiscrpage
37         \newpage
38         \thispagestyle{empty}
39         \null\vfill
40         \centerline{\copyrightnotice}%
41         \vskip 3ex % skip to visually center copyright notice
42         \vfill
43     \fi
```

Now start a new page for the title page. It is single-spaced.

```
44     \newpage
45     \thispagestyle{empty}%
46     \enlargethispage{1in}%
47     \begingroup
48     \def\baselinestretch{1}
```

Check what size font we are using for the text and select a smaller size appropriately.

```
49     \ifnum \@ptsize=2
50         \@normalsize
51         \newcommand{\thesis@small}{\small}
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.

```
58     \@tempdima=\paperwidth
59     \advance\@tempdima by -\textwidth
60     \divide\@tempdima by 2
61     \advance\@tempdima by -1in
62     \oddsidemargin=\@tempdima
63     \let\evensidemargin=\oddsidemargin
64
```

Create the title page as specified by the Grad College.

```
65     \newdimen\thesis@dim
66     \thesis@dim=1.5in
```

```
67     \newdimen\ct@dim
68     \newdimen\cn@dim
69     \ct@dim=\oddsidemargin
70     \advance\ct@dim by -0.3125in
71     \cn@dim=\oddsidemargin
72     \advance\cn@dim by -0.6875in
73     \def\lc@selectfont{}%
74     \begin{center}
75     \vbox to 1in{}
76     \vbox to \thesis@dim{%
77         {\lc@selectfont\@Utitle}
78         \vfil}%
79     \vbox to 0.5in{%
80         {\lc@selectfont BY}\\[12pt]
81         \vfil}%
82     \vbox to 1.5in{%
83         {\lc@selectfont\@Uauthor}\\[12pt]
84         \vfil}%
85     \vbox to 2.0in{%
86         {\lc@selectfont \@thesisname}\\[12pt]
87         Submitted in partial fulfillment of the requirements\\
88         for the degree of \@degree\ in \@dept\\
89         \ifdefined\@concentration
90             with a concentration in \@concentration\\
91         \fi
92         \ifdefined\@minor
93             with a minor in \@minor\\
94         \fi
95         in the \@college\ of the\\
96         University of Illinois Urbana-Champaign, \@degreeyear\vfil}%
97     \vskip -1.5ex%
98     \vbox to 0.4in{%
99     Urbana, Illinois}%
100    \end{center}
101 \begin{flushleft}
102        \vbox to 0.3in{%
103        \hspace{-\ct@dim}\@committeename\\}
104        \hspace{-\cn@dim}\begin{tabular}{l}\@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    [0pt]%
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    [0pt]%
127    {\vspace{1ex}}%
128    {\bfseries\appendixname~\thecontentslabel\quad}%
129    {\bfseries}%
130    {~\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}
```

`\listoftables`
`\listoffigures` Similarly, redefine `\listoftables` and `\listoffigures` so that they use single spacing and add entries to the table of contents.

```
133 \let\thesis@listoftables=\listoftables
134 \def\listoftables{\newpage%
135    \addcontentsline{toc}{chapter}{\listtablename}%
136    {\singlespacing\thesis@listoftables}}
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}{
143    \newpage
```

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```
144        \leavevmode\vfill
145        \begin{center}
146        \itshape
147        }{
148        \end{center}
149        \vskip 3ex
150        \vfill
151        \newpage
152        }
```

acknowledgments Define the acknowledgments environment.

```
153 \newenvironment{acknowledgments}{\chapter*{Acknowledgments}}{}
```

symbollist The symbollist environment can be used to create a list of symbols with the left
abbrevlist column centered (for symbols). The abbrevlist environment has the left column
left-justified (for abbreviations).

```
154 \newenvironment*{symbollist}[1][1in]{
155        \begin{list}{}{\singlespacing
156          \setlength{\leftmargin}{#1}
157          \setlength{\labelwidth}{#1}
158          \addtolength{\labelwidth}{-\labelsep}
159          \setlength{\topsep}{0in}}%
160          \def\makelabel##1{\hfil##1\hfil}%
161        }{
162        \end{list}}
163 \newenvironment*{abbrevlist}[1][1in]{
164        \begin{symbollist}[#1]
165        \def\makelabel##1{##1\hfil}}
166        {\end{symbollist}}
```

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}{%
175        \renewcommand{\headrulewidth}{0pt}%
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, simpliy specify
roman page numbering.

```
180 \pagenumbering{roman}
```
181 ⟨/class | package⟩