The fsuthesis Class*

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1 Introduction

The fsuthesis class may be used to generate Theses and Dissertations in the format required by the Florida State University Graduate School as described by the document *Guidelines & Requirements for Electronic Theses, Treatises and Dissertations*, 2019–2020 edition (revised September 2019). This class extends the standard IATEX document class report.cls, adding elements and re-formatting as required to comply with FSU's standards.

Official changes to this class file will be reflected in the first two elements of the version number. Any local changes to this file may be tracked by incrementing the third element of the version number (see the \ProvidesClass macro above in this document's source code).

Dependencies: In addition to the primary IATEX packages, this class requires the external package ifpdf, which ships with most distributions of IATEX.

2 What Has Gone Before

The first FSU IATEX style file was based on macros from Stanford University, modified to comply with FSU standards by Meteorology professor Jon Ahlquist. Mimi Burbank, until her retirement from the Supercomputer Computations Research Institute (SCRI), maintained another set of macros for campus-wide use. Subsequent updates were provided by Wickus Nienaber, a Ph.D. student in Computer Science, and Jack Tyndall, a staff member with the Graduate School.

Started in 2009, this version is an entirely new re-write by Bret Whissel, presently with the FSU Information Technology Services department's Linux Enterprise Applications and Systems Group. Corrections and improvements should be directed to his attention at bwhissel@fsu.edu.

3 Option Registration

hardcopy expanded chapterleaders copyright In addition to the options provided by the standard report class, this class provides four supplemental options: hardcopy, expanded, chapterleaders, and copyright.

^{*}This document corresponds to fsuthesis v4.3.0, dated 2022/03/25.

The hardcopy option will increase the size of the margin along the bindingedge. If the standard option twoside is also given, then the binding-edge will be shifted for even and odd pages, and the standard option openright will be forced.

The expanded option increases the spacing of baselines. This requires many subtle tweaks in standard report definitions, as vertical spacing at chapter headings and other places becomes irregular and must be accounted for.

The chapterleaders option causes the display of leader dots in the *Table of Contents* for chapter headings, which would otherwise be suppressed. This could be nice for people who request that section/sub-section headings in the ToC be suppressed.

The copyright option includes a copyright notice on the title page of the document, using the author's name and defense year to generate the line.

\if@hardcopy \if@expanded \ifch@pleaders \ifc@pyright Declaring the document options merely sets appropriate flags, which we define here. We deal with the options later.

- 1 \newif\if@hardcopy
- 2 \newif\if@expanded
- 3 \newif\ifch@pleaders
- 4 \newif\ifc@pyright

The rest of this section is boiler-plate for handling the options and passing standard options on to the report class for handling. The final step is to load the report class, so that we may continue to override its features here. Then we load the ifpdf package since we will need it down the road.

- 5 \DeclareOption{hardcopy}{\@hardcopytrue}
- 6 \DeclareOption{expanded}{\@expandedtrue}
- 7 \DeclareOption{chapterleaders}{\ch@pleaderstrue}
- 8 \DeclareOption{copyright}{\c@pyrighttrue}
- 9 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{report}}
- 10 \ProcessOptions \relax
- 11 \LoadClass{report}
- 12 \RequirePackage{ifpdf}

4 Establishing Page Margins

Now we'll set up page margins that FSU expects. In general, the *Guidelines & Requirements for Electronic Theses*, *Treatises and Dissertations* requires that text margins be 1 inch on all sides, with the page number being 3/4 inch from the bottom.

\headheight \headsep \topmargin

We do not use running headers, but should someone turn them on, we set them to appear (illegally) in the area above the page body. The \topmargin is calculated relative to the default 1-inch page origin, assuming \voffset=0pt.

- 13 \setlength{\headheight}{\topskip}
- 14 \setlength{\headsep}{1.5\baselineskip}
- 15 \setlength{\topmargin}{-\headheight}

\textheight \footskip

We set the \textheight to accommodate a fixed number of lines whose heights are defined by \baselineskip. (This parameter is established by the document font size selection.) We want the page body to occupy the entire vertical space,

less the top and bottom margins. The *Guidelines* specify that the page number should be 3/4-inch from the bottom. Once we've established the actual text height established by some integral number of lines, we'll set \footskip to absorb any additional space.

```
17 \setlength{\Otempdima}{\paperheight}
18 \addtolength{\Otempdima}{-2.075in} % 2in plus a little fudge
19 \divide\Otempdima\baselineskip
20 \Otempcnta=\Otempdima
21 \setlength\textheight{\Otempcnta\baselineskip}
```

Now that the text height has been calculated, we fix the \footskip setting to take up the slack, setting it 3/4 inch from the page bottom.

\textwidth \oddsidemargin \evensidemargin Accounting for the required margins, standard 8.5x11" paper allows a maximum LATEX \textwidth of 6.5 inches. The horizontal margins are derived from this column width, so with the following code, if a narrower papersize is selected (e.g., A4), the margins will be narrower.

```
25 \setlength{\textwidth}{6.5in}
26 \setlength{\@tempdima}{\paperwidth}
27 \addtolength{\@tempdima}{-2in}
28 \addtolength{\@tempdima}{-\textwidth}
29 \divide\@tempdima by2
30 \setlength{\oddsidemargin}{\@tempdima}
31 \setlength{\evensidemargin}{\@tempdima}
```

5 Processing the Document Options

5.1 Handling the hardcopy Option

\evenoddoffset

For printing hard copies of a thesis or dissertation, we allow a little extra margin space along the binding edge. The size of this extra space is defined by \evenoddoffset. For two-sided hard copies, we force chapters (and everything using that level heading) to begin on right-hand (recto, odd-numbered) pages. The margin adjustments are added to the \begin{document} hooks, so that the user may redefine \evenoddoffset in the document preamble. The hardcopy option will produce a non-compliant document, but it may be nice for a personal hard copy.

```
32 \newlength{\evenoddoffset}
33 \setlength{\evenoddoffset}{0.25in}
34 \if@hardcopy%
35 \AtBeginDocument{\addtolength{\textwidth}{-\evenoddoffset}%
36 \addtolength{\oddsidemargin}{\evenoddoffset}}
37 \if@twoside\@openrighttrue%
38 \AtBeginDocument{\addtolength{\evensidemargin}{-\evenoddoffset}}
39 \else
40 \AtBeginDocument{\addtolength{\evensidemargin}{\evenoddoffset}}\fi
41 \fi
```

5.2 Handling the chapterleaders Option

This option makes a minor change to the *Table of Contents* by adding leader dots from the chapter title to the page number. The default LATEX report class does not provide leaders on chapter headings, just section and lower heading levels. If the user is writing a paper without subheadings, then the appearance of the *Table of Contents* might be improved by including such leader dots.

\1@chapter

If the user has requested the chapterleaders document option, \lambda@chapter is re-defined to provide the leaders as requested.

```
42 \ifch@pleaders
43 \renewcommand*\l@chapter[2]{%
44 \ifnum \c@tocdepth >\m@ne
45 \addpenalty{-\@highpenalty}%
46 \vskip 1.0em \@plus\p@
47 {\@dottedtocline{0}{0pt}{1.5em}{\bfseries#1}{\bfseries#2}}
48 \fi}
49 \fi
```

5.3 Handling the expanded Option

Expanded spacing requires a lot of tweaking. The standard report-class mechanisms allow a user to redefine \baselinestretch, and then all baseline leading is increased by this factor. Instead, the expanded spacing environment stretches the \baselineskip by half again as much, but only for the normal font size in the main body of the text. Other environments revert to single-spacing (e.g., the various Tables of Contents in the front matter, table and figure captions, footnotes), and vertical spacing in list environments is also scaled back.

The definitions which follow are only defined if the expanded option has been selected.

5.3.1 Baseline Parameters

\adjbaselineskip \blstretchiness \smblstretchiness To start, we define the adjustment to \baselineskip to be some fraction of the original \baselineskip. This adjustment is not defined to be a rubber length, since we generally want fixed, predictable baselines while we are in single-space mode. In expanded spacing mode, however, we can allow a little stretchiness since we've already got some whitespace between lines. We define some baseline stretchiness with \blstretchiness, and a smaller amount of stretchiness with \smblstretchiness.

```
51 \newlength{\adjbaselineskip}%
52 \setlength{\adjbaselineskip}{0.5\baselineskip}%
53 \def\blstretchiness{0pt plus.4pt minus.3pt}
54 \def\smblstretchiness{0pt plus.3pt minus.2pt}
```

Note: If tweaking \adjbaselineskip here, be sure to evaluate the \listbaselineskip parameter below as well. It may need to be adjusted if the baselineskip strays too far from 150%.

\listbaselineskip

We use the $\$ listbaselineskip to reset to narrower spacing for list environments (see below). In the ballpark of the 150% expanded baselineskip, a baselineskip reduced to 80% of expanded looks OK.

```
    \newlength{\listbaselineskip}\%
    \@tempdima=\baselineskip\advance\@tempdima by\adjbaselineskip
```

57 \setlength{\listbaselineskip}{0.8\@tempdima}

5.3.2 Redefining \normalsize

\FSU@onormalsize \normalsize \expandspacing We preserve the original definition of \normalsize in \FSU@onormalsize, and then we redefine \normalsize to call \expandspacing instead. \expandspacing first calls the old definition of \normalsize to establish the original baselines. (Otherwise, multiple calls to \expandspacing will generate wider and wider baseline spacings.)

5.3.3 Chapter Heading Adjustment

\afterheadadj

While in expanded-spacing mode, the first line of text after chapter headings will be set a little lower than if we were in single-space mode. (We will be in single-space mode for the automatically-generated lists in the front-matter, for example, while most of the other chapter-level sections will be in expanded-spacing mode.) To compensate, we should call the macro \afterheadadj to remove extra vertical space when we go into expanded-spacing mode after chapter headings.

63 \newcommand{\afterheadadj}{\addvspace{-\adjbaselineskip}}%

5.3.4 Adjustments to the \list Environments

In expanded-spacing mode, most of the **\list** environments look pretty bad if left with the standard expanded baselines. We attempt to compensate by reducing the amount of baseline skip while in list mode. We accomplish this by first calling the standard list startup machinery, and then reducing the baseline skip and baseline stretchiness.

\f@olist \list We preserve the regular function of the \list command in the macro \f@olist, and then we redefine \list to scale back the standard expanded spacing in the list environments. The \baselineskip adjustment occurs only in the outer-most \list environment. (All inner \lists will share the same reduced \baselineskip.)

```
64 \let\f@olist=\list
65 \def\list#1#2{%
66 \f@olist{#1}{#2}
67 \ifnum\@listdepth=1
68 \setlength{\baselineskip}{\listbaselineskip}
69 \addtolength{\baselineskip}{\smblstretchiness}
70 \fi
71 }
```

\f@oendlist After our mutation of \list, we undo our damage here by re-defining \endlist \endlist to restore expanded spacing at the close of the outer-most \list environment.

```
72 \let\f@oendlist=\endlist
73 \def\endlist{%
74 \f@oendlist
75 \ifnum\@listdepth=0 \normalsize \fi
76 }
```

verbatim*

A verbatim environment looks awkward with expanded spacing, so we re-define the environment to revert to standard spacing here. We handle both the standard and starred versions. (These definitions are borrowed from the LATEX code and modified.)

```
77 \let\f@overbat=\verbatim
```

- 78 \expandafter\let\expandafter\f@overbats
- 79 \expandafter=\csname endverbatim*\endcsname
- 80 \let\f@oendverb=\endverbatim
- 81 \def\verbatim{\par\FSU@onormalsize\f@overbat}
- 82 \def\endverbatim{\f@oendverb\afterheadadj}
- 83 \@namedef{verbatim*}{\par\FSU@onormalsize\@verbatim\@sxverbatim}
- 84 \expandafter\let\csname endverbatim*\endcsname =\endverbatim

5.3.5 Fallback Definitions

We allow our redefinitions to be NO-OPs if the expanded document option has not been selected. (Some of our later macro definitions attempt to call a few of the macros above without testing \ifeexpanded.)

```
86 \let\expandspacing=\relax
87 \let\FSU@onormalsize=\relax
88 \let\afterheadadj=\relax
```

89 \let\f@olist=\list

90 \let\f@oendlist=\endlist

91**\fi**

92 \FSU@onormalsize

singlespaced

There may be times when it is necessary to provide single-spacing while in expanded mode. This environment provides that. If not in expanded mode, it becomes a normal paragraph.

```
93 \newenvironment{singlespaced}
```

94 {\par\if@expanded\FSU@onormalsize\addvspace{\adjbaselineskip}\fi}{\par}

6 Testing the Presence of hyperref

\if@hyperloaded

We may want to enhance the behavior of a few of our macros if the hyperref package has been loaded. We cannot test for package loading after begin{document}, and the user's \usepackage{hyperref} will have occurred after this file has been loaded. So what we can do is create a new test here and have it initialized in the \begin{document} hooks. This test is used to add PDF bookmarks to the title page and to the table of contents page (if hyperref has been loaded).

```
95 \newif\if@hyperloaded
```

- 96 \AtBeginDocument{\@ifpackageloaded{hyperref}
- 97 {\@hyperloadedtrue}{\@hyperloadedfalse}}

7 Definition of Title Page Macros

7.1 Token Storage

```
These definitions should be redefined within the document's preamble, set to sane
                              \@degree
                                                                   values using the corresponding macros in the next section.
               \@department
                          \@college
                                                                  98 \gdef\@degree{\ClassError{fsuthesis}%
               \@degreeyear
                                                                                    {No \protect\degree\space given}%
                                                                                    {You must provide a \protect\degree{Degree Name}%
          \@defensedate 100
                                                                                       \space command}}
                                                               101
\@manuscripttype
                                                                 102 \gdef\@department{\ClassError{fsuthesis}%
                                                                                   {No \protect\department\space given}%
                                                                                    {You must provide a \protect\department{Name of Department}}%
                                                                                       \space command}}
                                                                 105
                                                                 106 \gdef\@college{\ClassError{fsuthesis}%
                                                                 107
                                                                                    {No \protect\college\space given}%
                                                                 108
                                                                                    {You must provide a \protect\college{My College or School}%
                                                                 109
                                                                                       \space command}}
                                                                 110 \gdef\@degreeyear{\ClassError{fsuthesis}%
                                                                                    {No \protect\degreeyear\space given}%
                                                                 111
                                                                                    {You must provide a \protect\degreeyear{20NN}\space command}}
                                                                 112
                                                                 113 \gdef\@defensedate{\ClassError{fsuthesis}%
                                                                 114
                                                                                   {No \protect\defensedate\space given}%
                                                                                    {You must provide a \protect\defensedate{Month dd, 20NN}%
                                                                 115
                                                                                       \space command}}
                                                                 117 \gdef\@manuscripttype{\ClassError{fsuthesis}%
                                                                 118
                                                                                   {No \protect\manuscripttype\space given}%
                                                                                   {\tt \{You\ must\ provide\ a\ \ \ \ } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  \  } \\ \texttt{\  \  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  } \\ \texttt{\  \  \  } \\ \texttt{\  \  \  } \\ 
                                                                 119
                                                                                        \space command}}
                                                                 120
```

7.2 Title Page Token-Setting Macros

```
\degree
\degree
\defraction for the these should
all be redefined within the preamble section of the thesis or dissertation, with
the exception of \department, which may not be appropriate in some Schools or
Colleges.
\defensedate
\manuscripttype
\text{l21 \newif\if@department}

\manuscripttype
\left{l22 \newcommand*{\degree}[1]{\gdef\@degree{#1}}}

\semester
\left{l32 \newcommand*{\department}[1]{\gdef\@degree{#1}}}

\left{l24 \newcommand*{\degree}[1]{\gdef\@degree{#1}}}

\left{l25 \newcommand*{\degree}ear}[1]{\gdef\@degreeeear}{\degree}{#1}}

\left{l26 \newcommand*{\degree}ear}[1]{\gdef\@defensedate{#1}}}

\left{l27 \newcommand*{\defensedate}[1]{\gdef\@defensedate{#1}}}

\left{l27 \newcommand*{\manuscripttype}[1]{\gdef\@manuscripttype{#1}}}

\left{l28 \newcommand*{\semester}[1]{\gdef\@manuscripttype{#1}}}

\left{l36}

\left{l36
```

7.3 Title Page Generation

This macro generates the title page by expanding a few of the macros that should have been specified in the thesis document's preamble. No page number is written on the title page, but the page should occupy all the vertical space (within the margins), including the space normally occupied by the page number. The whole page is enclosed in a centering environment, within the LATEX report class's titlepage environment.

If the hyperref package has been loaded, we first add a PDF bookmark to the title page for convenience. Then the pagebody is expanded vertically by the amount \footskip. Next we restore single-spacing with \FSU@onormalsize. (We'll double-space manually by inserting \baselineskips where necessary.) We use \vfills to distribute vertical white space evenly across the page. We don't know how long the user's title is, and we'll let LATEX decide how best to break the title into multiple lines. However, the title should be double-spaced, so we double \baselineskip before processing the title. This adds one extra blank line before the title, so we compensate by \vskiping a negative \baselineskip first.

```
129 \renewcommand{\maketitle}{\begin{titlepage}%
130 \ifpdf\if@hyperloaded\pdfbookmark[0]{Title Page}{MainTitlePage}\fi\fi%
131 \setlength{\@tempdima}{\paperheight}%
132 \addtolength{\Otempdima}{-2.075in}% 2in plus a little fudge
133 \addtolength{\@tempdima}{-\textheight}%
134 \enlargethispage{\@tempdima}%
135 \begin{center}%
136 \FSU@onormalsize FLORIDA STATE UNIVERSITY
137 \vskip\baselineskip
138 \MakeUppercase{\@college}%
139 \vfill
140 \vskip-\baselineskip
141 {\addtolength{\baselineskip}{\baselineskip}%
142 \MakeUppercase{\@title}\vfill}
144 \vskip\baselineskip
145 \MakeUppercase{\@author}
146 \vfill
147 A \@manuscripttype{} submitted to the\\
148 \if@department\@department\else\@college\fi\\
149 in partial fulfillment of the
150 requirements for the degree of \\
151 \@degree
152 \vfill
153 \@degreeyear%
154 \vfill
155 \ifc@pyright%
    Copyright \copyright \ \@degreeyear \ \@author. All Rights Reserved.\fi%
157 \pagebreak [4]
158 \end{center}
159 \end{titlepage}
160 }
```

8 Definition of Committee Membership Page Macros

8.1 Committee Membership Page Definitions

\commwidth \commskip

These macros control the width of the committee member column and the vertical space between members. The \commwidth length determines the width of the name column. Names and titles are set flush-left within this column, but the column itself is set flush-right on the page. Therefore, increasing the width here will move the start of the column to the left.

We allow plenty of vertical stretchiness between entries as defined here in the

\commskip parameter, and significant shrink capacity as well. With this arrangement we can accommodate three to ten committee members without stressing the page design significantly.

```
161 \newlength{\commwidth}
162 \setlength{\commwidth}{4in}
163 \newlength{\commskip}
164 \setlength{\commskip}{0.5in plus0.25fil minus.3in}
```

\committeeperson

Theses/Dissertations require listing the student's graduate committee. Committee members are added to the page by means of the \committeeperson macro. It works by expanding and re-defining the \@thecmems macro with additional arguments each time it is called. The committee page then inserts the macro's text as is. I use \expandafter here since I just want one level of expansion rather than the complete-to-the-core expansion of \xdef. We account for the extra \vskip at the top of the column later.

```
165 \gdef\@thecmems{}
166 \newcommand{\committeeperson}[2]{%
167 \expandafter\gdef\expandafter\@thecmems\expandafter{%
168 \@thecmems\vskip\commskip\makebox[\commwidth][1]{#1}\\
169 \makebox[\commwidth][1]{#2}}}
```

8.2 Committee Page Generation

\makecommitteepage

This macro inserts the boiler-plate text into a committee page. For the text at the top of the page, we first test whether the author and defense date information can fit on one line. If it can, we eject the line as is and start a new paragraph for the supervisory committee line. If it won't fit (because the author's name is exceedingly long), then allow the supervisory committee line to join with the previous line in a single paragraph.

When the \@thecmems macro was created, it included a \vskip before the the first committee member. Before we expand the \@thecmems macro, we \vskip backwards so that we have tighter control over the spacing balance here. (It's easier than inserting extra logic in the \expandafter series in the \committeeperson macro.)

```
170 \newcommand{\makecommitteepage}{\FSU@onormalsize\setcounter{page}{2}%
171 \if@openright\cleardoublepage\else\clearpage\fi%
172 \addtolength{\baselineskip}{0.4\baselineskip}
173 \setbox\@tempboxa=\hbox{\@author{} defended this
     \MakeLowercase{\@manuscripttype} on \mbox{\@defensedate}.}
175 \ifdim\wd\@tempboxa>\textwidth\raggedright\noindent\unhbox\@tempboxa{}
     \else\noindent\unhbox\@tempboxa\par\noindent\fi
177 The members of the supervisory committee were:\par
178 \vfil\begin{flushright}\vskip-\commskip%
     %\addtolength{\baselineskip}{0.4\baselineskip}
179
     \Othecmems\end{flushright}\vfil
181 \vskip\baselineskip
182 {%\addtolength{\baselineskip}{0.5\baselineskip}
183 \noindent
184 The Graduate School has verified and approved the
185 above-named committee members, and certifies that the
186 \MakeLowercase{\@manuscripttype} has been approved in accordance
187 with university requirements.\par}\vfil\pagebreak[4]}
```

9 Setting PDF Metadata

\@subject
\@keywords
\subject
\keywords
\if@subject
\if@keywords

Whether or not the user is aware of it, the PDF programs, drivers, and converters will set some document metadata in the output, such as document title, author, etc. If these are not set explicitly, then they could be set to some unknown values. Here we attempt to provide some adequate defaults. To start, we define a few extra macros which the user can use to enhance the metadata inserted into the document.

```
188 \gdef\@subject{}
189 \gdef\@keywords{}
190 \newif\if@subject
191 \newif\if@keywords
192 \newcommand*{\subject}[1]{\gdef\@subject{#1}\@subjecttrue}
193 \newcommand*{\keywords}[1]{\gdef\@keywords{#1}\@keywordstrue}
```

\@pdfmetadata \@hypermetadata We must provide two different methods for setting metadata, since the hyperref package will ignore the PDF information keywords. Execution is deferred until the begin{document}, so all the required information should be available. Note that the hyperref package will convert many accented or special characters in the \@title and \@author strings (but not all) so that they may be properly included as PDF metadata. Without hyperref, the \@author and \@title will probably not produce reliable results if they contain non-ASCII characters. (The same caveats apply to the \@subject and \@keywords strings.)

```
194 \def\@pdfmetadata{{\def\protect{}\def\\{ }%
195 \edef\@litstr{/Title (\@title) /Author (\@author)}%
196 \if@subject\edef\@litstr{\@litstr /Subject (\@subject)}\fi%
197 \if@keywords\edef\@litstr{\@litstr /Keywords (\@keywords)}\fi%
198 \expandafter\pdfinfo\expandafter{\@litstr}}}
199 \def\@hypermetadata{{\def\\{ }\edef\@nt{\@title}%
200 \hypersetup{pdftitle={\@nt},pdfauthor={\@author}}%
201 \if@subject\hypersetup{pdfsubject={\@subject}}\fi%
202 \if@keywords\hypersetup{pdfkeywords={\@keywords}}\fij}
203 \AtBeginDocument{\ifpdf\if@hyperloaded\@hypermetadata\else\@pdfmetadata\fi\fi}
```

10 Document Sections

\frontmatter \mainmatter

Borrowing from the book class, we add these two macros for helping to distinguish between front matter material and the body of the document. All page numbers are in small roman numerals for the front matter text; starting with the opening of the first chapter, pages are numbered starting with the arabic numeral "1".

```
204 \newcommand{\frontmatter}{\pagenumbering{roman}}
205 \newcommand{\mainmatter}{%
206 \if@openright\cleardoublepage\else\clearpage\fi%
207 \expandspacing\pagenumbering{arabic}}
```

11 Special Names

\acknowledgename
\biosketchname
\contentsname
\listabbrevname
\listmusexname
\listsymname
\musexname

\appendixtocname

Here we (re)define heading names for special pages. In addition, a new \musexname macro is created for labeling the captions of musical examples. Other standard report macros defining heading names are listed here in commented-out form for

reference. (Their default settings will be used unless overridden here or in the user's document preamble.)

```
208 %\renewcommand*{\abstractname}{}
209 \newcommand*{\abstractname}{Acknowledgments}
210 %\renewcommand*{\bioname}{}
211 \newcommand*{\biosketchname}{Biographical Sketch}
212 \renewcommand*{\contentsname}{Table of Contents}
213 \newcommand*{\listabbrevname}{List of Abbreviations}
214 %\renewcommand*{\listfigurename}{}
215 %\renewcommand*{\listtablename}{}
216 \newcommand*{\listmusexname}{List of Musical Examples}
217 \newcommand*{\listsymname}{List of Symbols}
218 \newcommand*{\musexname}{Example}
219 \newcommand*{\appendixtocname}{Appendix}
```

12 Front Matter Environments

 $\begin{array}{c} \text{dedication} \\ \text{acknowledgments} \end{array}$

The dedication page has no heading. Whatever text the user may provide will be placed about half way down the page. The acknowledgments page is formatted as a chapter heading page (without a chapter number). These pages are not listed in the table of contents.

```
220 \newenvironment{dedication}%
221 {\if@openright\cleardoublepage\else\clearpage\fi\mbox{}\vfill}
222 {\vfill\mbox{}\pagebreak[4]}
223 \newenvironment{acknowledgments}%
224 {\chapter*{\acknowledgename}\normalsize\afterheadadj}
225 {\clearpage\FSU@onormalsize}
```

listofsymbols listofabbrevs Lists of Symbols or Abbreviations are not required, but if a user does include them, they have chapter-style headings, and they are included in the table of contents using the frontmatter classification. These pages are set to be single-spaced, as they are likely to contain tabular material.

```
226 \newenvironment{listofsymbols}
227 {\chapter*{\listsymname}\FSU@onormalsize%
228 \addcontentsline{toc}{frontmatter}{\listsymname}}
229 {\clearpage}
230 \newenvironment{listofabbrevs}
231 {\chapter*{\listabbrevname}\FSU@onormalsize%
232 \addcontentsline{toc}{frontmatter}{\listabbrevname}}
233 {\clearpage}
```

abstract

The abstract environment is set to be in expanded spacing (if requested by document option), and an entry is added to the *ToC* using the frontmatter style.

```
234 \renewenvironment{abstract}%
235 {\chapter*{\abstractname}\normalsize\afterheadadj%
236 \addcontentsline{toc}{frontmatter}{\abstractname}}
237 {\clearpage\FSU@onormalsize}
```

13 Additional Front Matter Formatting

\@dottedtocline
\listspenalty

The FSU Guidelines require that table, figure, and musical example captions be listed in their entirety in the front matter of the document. Some of the captions can be quite lengthy. By default, LATEX wants to keep an entire caption on one page, rather than letting it be split between pages if necessary. This can lead to very bad spacing on the List of... pages. This behavior is contained within LATEX's \@dottedtocline macro by setting \interlinepenalty=10000. We redefine this macro here so that we can set \interlinepenalty to a value of our own choosing. In addition, the original \@dottedtocline macro created an overfull hbox if the page number exceeded the default \@pnumwidth value. For those rare occasions when the page number width might exceed this value, we allow the page numbers to consume an extra dot if necessary.

```
238 \newcount\listspenalty
239 \listspenalty=200
240 \def\@dottedtocline#1#2#3#4#5{%
241
     \ifnum #1>\c@tocdepth \else
       \vskip \z@ \@plus.2\p@
242
       {\leftskip #2\relax \rightskip \@tocrmarg \parfillskip -\rightskip
243
        \parindent #2\relax\@afterindenttrue
244
        \interlinepenalty=\listspenalty
245
246
        \leavevmode \@tempdima #3\relax
        \advance\leftskip \@tempdima \null\nobreak\hskip -\leftskip
247
        {#4}\nobreak \leaders\hbox{$\m@th
248
           \mkern \@dotsep mu\hbox{.}\mkern \@dotsep
249
250
           mu$}\hfill \nobreak%
        \setbox\@tempboxa=\hbox{\normalfont\begingroup\normalcolor #5\endgroup}%
251
        \ifdim\@pnumwidth<\wd\@tempboxa \hbox{\normalfont\begingroup\normalcolor #5\endgroup}%
252
          \else \hb@xt@\@pnumwidth{\hfil\normalfont\begingroup\normalcolor #5\endgroup}\fi%
253
254
        \setbox\@tempboxa\null
        \pi}
255
256
     fi
```

\tableofcontents

If the hyperref package has been loaded, it would be nice to have a PDF bookmark to the table of contents page. We need to redefine the original \tableofcontents in order to add that functionality. We also set the \listspenalty to retain the default LATEX behavior of preventing entries from being split between pages.

```
257 \renewcommand{\tableofcontents}{
258 \if@twocolumn\@restonecoltrue\onecolumn\else\@restonecolfalse\fi
259 \chapter*{\contentsname}
260 \@mkboth{\MakeUppercase\contentsname}{\MakeUppercase\contentsname}}\%
261 \ifpdf\if@hyperloaded\pdfbookmark[0]{Table of Contents}\fi\fi
262 \{\listspenalty=10000\@starttoc\toc\\if@restonecol\twocolumn\fi}\%
263 \}
```

\iffront@dded \l@frontmatter

This macro specifies how frontmatter entries in the *Table of Contents* appear. Each entry is separated by a little vertical space, with leader dots to the page number.

```
264 \newif\iffront@dded
265 \newcommand*\l@frontmatter{%
266 \iffront@dded\addvspace{1ex \@plus\p@}\else\front@ddedtrue\fi
267 \@dottedtocline{0}{0pt}{0pt}}
```

\toclevel@frontmatter For setting up bookmarks, the hyperref package wants to know what level of the hierarchy various sections of the Table of Contents are. We can hide the front matter entries behind the Table of Contents entry by setting the frontmatter ToC level to 1 here.

268 \def\toclevel@frontmatter{1}

\ifb@ckadded \1@backmatter

The "back matter" of the document consists of the References/Bibliography section and the Biographical Sketch. Since we're approaching the end of the table of contents, there is a potential to have a single entry at the top of one page. We try to discourage this by increasing the penalty between the leading and trailing backmatter items.

269 \newif\ifb@ckadded

270 \newcommand*\l@backmatter{%

271

272 \addpenalty{\@highpenalty}%

\else\b@ckaddedtrue\addpenalty{0}\addvspace{1em \@plus\p@}\fi% 273

\@dottedtocline{0}{0pt}{0pt}}

\toclevel@backmatter

As for the frontmatter handling for the hyperref package, we need to define the heading level of the backmatter items for bookmarks.

275 \def\toclevel@backmatter{0}

\l@table

\logitime \text{Tigure} Figure and table captions are listed with a single space between each of them. Since table and figure captions have the same format, the \lotable macro is \let from the \l@figure macro.

> 276 \renewcommand*\l@figure{% \addvspace{10pt}%

\@dottedtocline{0}{0pt}{3.2em}}

279 \let\l@table\l@figure

\FSU@lofsomething

Since the List of Figures, List of Tables, and List of Musical Examples all have similar function, the common elements are gathered in this one definition. (This code is borrowed and modified from the report class.)

280 \newcommand{\FSU@lofsomething}[2]{\FSU@onormalsize%

\if@twocolumn\@restonecoltrue\onecolumn\else\@restonecolfalse\fi 281

\chapter*{#1}% 282

283 \addvspace{-10pt}

284 \addcontentsline{toc}{frontmatter}{#1}%

\@mkboth{\MakeUppercase{#1}}{\MakeUppercase{#1}}

\@starttoc{#2}%

\if@restonecol\twocolumn\fi 287

288 }

\listoftables All the hard stuff is done. Now we just define these macros in terms of \listoffigures \FSUl@fsomething.

\listofmusex 289 \renewcommand{\listoftables}{%

290 \FSU@lofsomething{\listtablename}{lot}}

291 \renewcommand{\listoffigures}{%

292 \FSU@lofsomething{\listfigurename}{lof}}

293 \newcommand{\listofmusex}{%

\FSU@lofsomething{\listmusexname}{lom}}

14 Musical Example Indexing

Here we establish some boiler-plate stuff to hook into the standard LATEX mechanisms for table and figure captions, adding a *List of Musical Examples* capability and new environments for their captioning. Musical example captions will be written to a .lom file. The hyperref package, should it be loaded later by the user, expects an additional labeling macro called \theHmusex to be defined.

```
295 \let\l@musex\l@figure
       296 \newcounter{musex}[chapter]
       297 \renewcommand{\themusex}%
            {\ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@musex}
       299 \newcommand{\theHmusex}%
            {\ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@musex}
       301 \def\fps@musex{tbp}
       302 \def\ftype@musex{1}
       303 \def\ext@musex{lom}
       304 \def\fnum@musex{\musexname\nobreakspace\themusex}
 musex These work just like the figure environments.
musex* 305 \newenvironment{musex}%
       306
            {\@float{musex}}
             {\end@float}
       307
       308 \newenvironment{musex*}%
            {\@dblfloat{musex}}
       309
            {\end@dblfloat}
       310
```

15 End Matter Formatting

\refitemsep \refindent

A new length parameter \refitemsep is created to define the vertical space that separates individual bibliographic entries. This is calculated from the default \baselineskip for the selected point size, with a little bit of stretchiness added. \refindent adjusts the hanging indentation.

```
311 \newskip{\refitemsep}
312 \newskip{\refindent}
313 {\FSU@onormalsize%
314 \global\setlength{\refitemsep}{\baselineskip}
315 \global\addtolength{\refitemsep}{0pt plus3pt minus0.2pt}}
316 \setlength{\refindent}{2.5em}
```

references

This environment is intended for user-generated formatting of a reference list or bibliography, i.e., non-BibTeX. It establishes single-spaced lines with a blank line between entries, and the first line of each entry is exdented. The page heading is determined by the current definition of \bibname, not the environment, so the user must invoke \renewcommand*{\bibname}{References} in order to change the name of this section.

```
317 \newenvironment{references}
318 {\chapter*{\bibname}\FSU@onormalsize%
319 \interlinepenalty=10000\sloppy
320 \addvspace{-\baselineskip} \@afterindenttrue%
321 \addcontentsline{toc}{backmatter}{\bibname}%
322 \setlength{\leftskip}{\refindent}%
```

```
323 \setlength{\parindent}{\-\refindent}\%
324 \setlength{\parskip}{\refitemsep}}
325 {\clearpage}
```

thebibliography

This is a re-definition of a $BibT_EX$ -generated bibliography. We have to be be sure to turn off expanded spacing (if it had been requested), and add an entry to the ToC.

```
326 \renewenvironment{thebibliography}[1]
327
        {\chapter*{\bibname}\FSU@onormalsize%
328
         \addcontentsline{toc}{backmatter}{\bibname}%
329
         \@mkboth{\MakeUppercase\bibname}{\MakeUppercase\bibname}%
330
         \f@olist{\@biblabel{\@arabic\c@enumiv}}%
331
             {\settowidth\labelwidth{\@biblabel{#1}}%
332
              \leftmargin\labelwidth
              \advance\leftmargin\labelsep
333
              \@openbib@code
334
              \usecounter{enumiv}%
335
              \let\p@enumiv\@empty
336
              \setlength{\itemsep}{\refitemsep}
337
338
              \setlength{\parsep}{0pt}
              \renewcommand\theenumiv{\@arabic\c@enumiv}}%
339
         \interlinepenalty=10000
340
341
         \sloppy
342
         \clubpenalty4000
343
         \@clubpenalty \clubpenalty
344
         \widowpenalty4000%
         \sfcode(\.\@m}
345
        {\def\@noitemerr
346
          {\@latex@warning{Empty 'thebibliography' environment}}%
347
348
          \f@oendlist}
```

15.1 Accommodating natbib, apacite, and biblatex

Packages natbib and apacite overwrite our redifinition of the standard IATEX thebibliography environment, so we must accommodate them specially. Further, the apacite package may optionally import the natbib package, so we have to be careful about what we "fix" and under which conditions here. Because these packages will be loaded after this class has been loaded, we must defer our corrections until the preamble has been processed, so once again, we rely on the \AtBeginDocument hook.

\f@plainnat \bibsection \bibpreamble \bibpostamble We'll start with the plain natbib corrections. We can accommodate this package by adding definitions to natbib's \bibsection. There, we'll set the proper chapter heading, make an addition to the *Table of Contents*, and reset to single linespacing. We'll also add definitions to natbib's \bibpreamble macro so that we can re-instate the standard LATEX list environment, and then restore our own version again by supplementing the definition of \bibpostamble.

```
349 \def\f@plainnat{%
350 \setlength{\bibsep}{\refitemsep}
351 \setlength{\bibhang}{\refindent}
352 \renewcommand\bibsection{\chapter*{\bibname}\FSU@onormalsize%
353 \addcontentsline{toc}{backmatter}{\bibname}%
```

```
354  \let\f@oldpre=\bibpreamble\let\f@oldpost=\bibpostamble%
355  \renewcommand\bibpreamble{\f@oldpre\interlinepenalty=10000
356  \if@expanded\let\f@savenlist=\list\let\list=\f@olist\fij}%
357  \renewcommand\bibpostamble{%
358  \if@expanded\let\list=\f@savenlist\fi\f@oldpost}}}
```

\f@apacite \bibliographytypesize \bibsection Package apacite has more machinery to adjust, but again, we need to re-instate the LATEX default behavior for line spacing and lists for when we may be in expanded mode. We have to make different adjustments if the natbibapa package option has been specified.

```
359 \def\f@apacite{%
     \renewcommand{\bibliographytypesize}{\FSU@onormalsize%
361
        \interlinepenalty=10000
362
        \if@expanded\let\f@savenlist=\list\let\list=\f@olist\fi}%
363
     \verb|\difpackageloaded{natbib}||%
364
       {\renewcommand\bibsection{\chapter*{\bibname}
365
           \addcontentsline{toc}{backmatter}{\bibname}}
        \setlength{\bibsep}{\refitemsep}%
366
367
        \setlength{\bibhang}{\refindent}}%
368
       {\setlength{\bibitemsep}{\refitemsep}%
369
        \setlength{\bibleftmargin}{\refindent}%
370
        \setlength{\bibindent}{-\refindent}%
371
        \renewcommand{\st@rtbibchapter}{\chapter*{\bibname}%
372
            \addcontentsline{toc}{backmatter}{\bibname}}}
```

\f@biblatex

We don't need to do much: the default BibLATEX environment doesn't add the bibliography to the ToC, so we add that here. We also encourage entries to remain on one page. We define hanging indentation and entry separation to be consistent with our own environment.

```
373 \def\f@biblatex{%
374  \AtBeginBibliography{%
375  \FSU@onormalsize \interlinepenalty=10000%
376  \addcontentsline{toc}{backmatter}{\bibname}}
377  \setlength{\bibitemsep}{\refitemsep}%
378  \setlength{\bibhang}{\refindent}%
379 }
```

Notes for future consideration: perhaps the changes to the list environment should be made a part of the \FSU@onormalsize and \normalsize definitions, so that these become effective whenever we enter or leave expanded mode typesetting. Or perhaps our own list environment can just be made sensitive to the current state of \FSU@onormalsize/\normalsize.

Now we enfold the corrections into the \AtBeginDocument hook.

```
380 \AtBeginDocument{%
381 \Gifpackageloaded{biblatex}{\fGbiblatex}%
382 {\Gifpackageloaded{apacite}{\fGapacite}%
383 {\Gifpackageloaded{natbib}{\fGplainnat}{}}}
```

biosketch The final page of a thesis or dissertation is the Biographical Sketch. It will be set in expanded spacing (if that document option has been requested).

```
384 \newenvironment{biosketch}
385 {\chapter*{\biosketchname}\normalsize\afterheadadj%
386 \addcontentsline{toc}{backmatter}{\biosketchname}}
387 {\clearpage\FSU@onormalsize}
```

16 Sectioning Command Formatting

\chapheadskip

The amount of vertical space from the top of the text body area to the top of the chapter heading is defined here by \chapheadskip. This value is set here to be 0 inches from the top of the page. If the chapter heading font is changed, this code will need adjustment.

```
388 \newlength{\chapheadskip}
389 \sbox\@tempboxa{\LARGE\bfseries CHAPTER}
390 \setlength{\chapheadskip}{0in}
391 \addtolength{\chapheadskip}{-\ht\@tempboxa}
```

\@makechapterhead \@makeschapterhead

Chapter headings are upper-case, centered, LARGE, and bold. Starred chapter headings omit the 'Chapter/Appendix' label, and this is used for all the nonchapter page headings in the format.

```
392 \def\@makechapterhead#1{%
     \hrule heightOpt depthOpt widthOpt\vskip\chapheadskip%
393
     {\centering\parindent=0pt\LARGE\bfseries%
394
      \ifnum\c@secnumdepth >\m@ne%
395
        \MakeUppercase{\@chapapp}\space\thechapter\par
396
397
        \nobreak\vskip20pt\fi%
398
      \interlinepenalty\@M%
      \MakeUppercase{#1}\par\nobreak\addvspace{40pt}
399
     }
400
401 }
402 \def\@makeschapterhead#1{%
     \hrule heightOpt depthOpt widthOpt\vskip\chapheadskip%
403
     {\centering\parindent=0pt\LARGE\bfseries%
404
      \interlinepenalty\@M%
405
      \MakeUppercase{#1}\par\nobreak\addvspace{40pt}
406
407
408 }
```

\subsection

\section Chapter sections have centered headings. To avoid the hanging indentation added on subsequent lines, disable the @hangfrom definition in the styling for centered section headings. Subsections are set flush left.

```
409 \renewcommand{\section}{\Ostartsection{section}{1}{Opt}%
     {4.0ex plus1ex minus0.3ex}%
     {2.0ex plus0.3ex minus0.2ex}%
     {\normalfont\centering\let\@hangfrom=\relax\Large\bfseries}}
413 \renewcommand{\subsection}{\Qstartsection{subsection}{2}{0pt}\%
     {3ex plus.8ex minus0.1ex}%
414
     {1.25ex plus0.1ex minus.1ex}%
415
     {\normalfont\raggedright\large\bfseries}}
```

\subsubsection \paragraph \subparagraph

These sectioning commands produce in-line headings, and they must end with a period. Rather than relying on the user to consistently provide the period and to remain consistent with other sectioning commands, these macros are re-defined to take an additional argument (i.e., the heading text). This text is normally absorbed by the \@startsection macro, so instead we can tack a period onto the end of the text when we pass control to \@startsection. The downside of the current implementation is that we lose the ability to apply optional arguments for these three sectioning commands.

```
417 \renewcommand{\subsubsection}[1]%
     {\@startsection{subsubsection}{3}{\parindent}%
418
       {1ex plus.5ex minus0.1ex}%
419
       {-1em}%
420
       {\normalfont\bfseries}{#1.}}
421
422 \renewcommand{\paragraph}[1]%
     {\@startsection{paragraph}{4}{\parindent}%
       {1ex plus0.5ex minus0.1ex}%
424
425
       \{-0.75em\}\%
       {\normalfont\sffamily\slshape}{#1.}}
426
427 \renewcommand{\subparagraph}[1]%
     {\@startsection{subparagraph}{5}{\parindent}%
428
       {Opt}{-0.5em}{\normalfont\itshape}{#1.}}
429
```

16.1 Appendix Handling

\appendix

FSU likes to have the document appendices labeled as such in the ToC. To accommodate this, we create the \appendixtocname macro (see the "Special Names" section). We also add extra code to the default \appendix macro here to insert an entry into the table of contents using a new "appendix" class.

For the sake of correct PDF bookmarks, hyperref needs a little assistance in this case (because we are creating a bogus heading). We force the current hyperlink to point to what we suppose will be the first appendix page before calling \addcontentsline.

```
430 \let\f@ldappendix=\appendix
431 \gdef\appendix{\f@ldappendix
432 \if@hyperloaded\def\@currentHref{appendix.A}\fi
433 \addcontentsline{toc}{appendix}{\appendixtocname}}
```

\1@appendix

We've just defined a new appendix ToC class, so now we need to provide for its format in the ToC. The format below is modified from the default report class \locale_1@chapter definition. It would be the same except that we don't need page numbers, and we want to insert a high penalty after the heading and reduce the vertical space so that it will be attached to the next appendix line should the ToC need to be broken over pages. I have inserted a rather large penalty before the heading to encourage a break there, allowing for the appendix heading and any appendices to float to the next page, along with the back matter material.

```
434 \newcommand*\l@appendix[2]{%
     \ifnum \c@tocdepth >\m@ne
435
       \addpenalty{-2000}\vskip 1.0em \@plus\p@%
436
       \setlength\@tempdima{1.5em}%
437
       \begingroup
438
         \parindent \z@ \leavevmode \bfseries
439
         \advance\leftskip\@tempdima \hskip -\leftskip
440
         #1\nobreak\hfil \par
441
         \penalty\@highpenalty\vskip -0.35em\penalty\@highpenalty
442
443
       \endgroup
444
     fi
```

\toclevel@appendix Set the bookmark level for the appendix heading.

445 \def\toclevel@appendix{0}

17 Tweaking Captions

\fcapindent \belowcaptionskip

The default report class sets captions with the same margins as the rest of the page body. Instead, we narrow the caption column by the amount \fcapindent. The vertical space below a caption is set by report to be 0 points, but since captions above tables need some space, we set the value to 10 points here.

```
446 \newlength{\fcapindent}
447 \setlength{\fcapindent}{2em}
448 \setlength{\belowcaptionskip}{10\p@}
```

\@makecaption

We narrow the caption column by adjusting \leftskip and \rightskip. We also set the text in single-space mode if expanded spacing has been requested. (Small, single-line captions remain centered, as in the default report class.)

```
449 \long\def\@makecaption#1#2{%
                                                                     \vskip\abovecaptionskip%
450
                                                                          \sbox\@tempboxa{#1: #2}%
451
                                                                        \ifdim \wd\@tempboxa >\hsize
452
                                                                                                     \label{leftskip} $$ \operatorname{\advance}\left( \operatorname{\advance}\right) = \operatorname{\advance}\left( 
453
                                                                                                                  \FSU@onormalsize%
454
                                                                                                                #1: #2\par}
455
456
                                                                        \else
457
                                                                                                     \global \@minipagefalse
458
                                                                                                   \hb@xt@\hsize{\hfil\box\@tempboxa\hfil}%
459
                                                                     \vskip\belowcaptionskip}
460
```

Change History

v2.0.0	\topmargin: Removed the
General: Initial release of new	\flushbottom option from the
design. $\dots \dots 1$	default configuration 2
v2.1.0	General: Improve handling of long
\maketitle: Fixed titling with	table and figure captions 1
accented/foreign characters 7	v3.2.0
v2.2.0	General: Make special
\maketitle: Fixed distribution of	accommodations for the
vertical spacing 7	optional natbib package 15
v2.3.0	v3.3.0
\if@hyperloaded: Added test for	\appendix: Modified standard
hyperref6	report macro to insert an extra
\makecommitteepage: if openright,	ToC element
force recto 9	\appendixtocname: Added a new
\maketitle: Added pdfbookmark	symbol name to hold the Table
to title page 7	of Contents heading for an
\tableofcontents: Redefined from	appendix or appendices 10
report class to add	\1@appendix: New formatting
pdfbookmark for table of	macro for the ToC appendix
contents	class
dedication: if openright, force	\1@backmatter: Added a
recto 11	backmatter ToC class to
v3.0.0	handle References and
\committeeperson: Removed	Biographical Sketch separately
signature lines for new ETD	from frontmatter 13
format 9	\lambda l@frontmatter: Added test for
\commskip: Renamed width and	
skip, removing reference to	first frontmatter item to avoid extra vertical space after ToC
signatures 8	header
\if@keywords: Explicitly set PDF	
metadata 10	\maketitle: Added layout for
$\mbox{\tt makecommitteepage: } {\it changed}$	copyright option
from "Signature Page" to	General: Make special
"Committee Page", removing	accommodations for the
signature lines and college-level	optional apacite package 15
approvals 9	copyright: Added new document
General: Added ifpdf package 2	option to add copyright
Added definitions for \@subject	declaration to the title page 2
and \@keywords 7	references: Changed \parskip to
Change to FSU Guidelines	use \refitemsep. Changed
bumps major version number;	indentation to be consistent
Enhanced PDF metadata 1	with apacite 14
v3.1.0	$ ext{verbatim} \colon \operatorname{Set} ext{verbatim}$
\listspenalty: Added new	environment to revert to
penalty item to allow long	standard spacing when using
captions to be split between	expanded spacing 6
pages 12	the bibliography: Set $\$ itemsep to
\tableofcontents: Prevent entries	$\ensuremath{ ext{refitemsep}}$ and set $\ensuremath{ ext{parsep}}$
from being split between pages,	to 0pt
restoring default LATEX	singlespaced: New environment
hehavior 19	providing single-spacing 6

v3.4.0	the natural box width instead
\chapheadskip: Changed spacing	of the predefined width 12
before chapter header to 0in 17	\commskip: Increased the name
\evenoddoffset: Adjusted text	column width, moving column
width for hardcopy option since	to the left to center it better 8
the text column is now wider. \cdot 3	\listbaselineskip: New macro to
\makecommitteepage: Adjusted	replace previously hard-coded
vertical spacing of the	value 4
committee page and moved	v3.8.0
name column closer to center. $$. $$ 9	\@dottedtocline: Added grouping
\maketitle: Altered spacing for	around \normalcolor
copyright on title page to be	commands to prevent pdftex
consistent with	warnings 12
$Guidelines\ 2013\ \dots 7$	v3.9.0
Removed "THE" from	General: Updated layout
FLORIDA STATE	requirements for dedication
UNIVERSITY 7	page
\textwidth: Set text column to	dedication: text on page should
6.5 inches 3	be vertically centered 11
v3.5.0	v3.9a.0
\bibsection: Added	\makecommitteepage: Added 0.4
\interlinepenalty to prevent	baselineskip to top of page
page breaks mid-item 16	for consistent
\refindent: Increased stretchiness	baselineskip spacing
of \refitemsep to facilitate	throughout 9 v4.0.0
un-breakable bibliography	\f@biblatex: Make minor
entries	adjustments to bibliography
General: Add \interlinepenalty	environment to support default
to prevent page breaks	biblatex structure 16
mid-item 15	General: Add the \f@biblatex
references: Added	macro for biblatex environment
\interlinepenalty to prevent	compatibility 15
page breaks mid-item 14	v4.1.0
the bibliography: Added	\footskip: Reset \footskip to
\interlinepenalty to prevent	display the page number
page breaks mid-entry 15	3/4 inch from page bottom 2
v3.6.0	\maketitle: Adjusted spacing for
\maketitle: Removed \@semester	copyright to since the footer
element to comply with change	location was dropped 1/4 inch 7
to FSU format 7	\topmargin: Simplified
\semester: Made \semester	\topmargin calculation 2
macro a no-op to comply with	v4.2.0
change in FSU format 7	\section: Disabled hanging indent
General: Removed \@semester	for centered section headings
macro since it's no longer	that take up multiple lines 17
needed 7	v4.3.0
v3.7.0	\paragraph: Replaced SMALL
\@dottedtocline: If pagenumbers	Caps headings with <i>Slanted</i>
exceed the allotted width, use	Sans Serif headings 17

Index

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.

Symbols	\@minipagefalse 457	60, 61, 69, 132,
\ 345	\@mkboth 260, 285, 329	133, 141, 172,
\@M 398, 405	\@namedef 83	179, 182, 315, 391
\@afterindenttrue .	\@noitemerr 346	\addvspace $63, 94, 266,$
$\dots \dots 244, 320$	\@nt 199, 200	271, 273, 277,
\@arabic	$\verb \@openbib@code \dots 334 $	283, 320, 399, 406
. 298, 300, 330, 339	\@openrighttrue 37	\adjbaselineskip
\@author 145,	$\$ Qpdfmetadata 194	. <u>51,</u> 56, 60, 63, 94
156, 173, 195, 200	\@pnumwidth 252, 253	\afterheadadj 63 ,
\@biblabel 330, 331	\@restonecolfalse .	82, 88, 224, 235, 385
\@chapapp 396		\appendix $\underline{430}$
\c 0clubpenalty 343	\@restonecoltrue	\appendixtocname
\@college		$208, 433$
. 98, 124, 138, 148	\@startsection 409,	\AtBeginBibliography
$\c \c \$	413, 418, 423, 428	374
\@dblfloat 309	\@starttoc 262, 286	\AtBeginDocument 35,
\@defensedate	\@subject . <u>188</u> , 196, 201	38, 40, 96, 203, 380
$\dots 98, 126, 174$	\@subjecttrue 192	
\@degree $98, 122, 151$	\@sxverbatim 83	В
\@degreeyear	\@thecmems	\b@ckaddedtrue 273
. <u>98,</u> 125, 153, 156	. 165, 167, 168, 180	$\begin{tabular}{ll} \begin{tabular}{ll} \beg$
\@department $98, 123, 148$	\@title 142, 195, 199	19, 21, 52, 56,
\@departmenttrue 123	\@tocrmarg 243	60, 61, 68, 69,
\@dotsep 249	\@verbatim 83	137, 140, 141,
\@dottedtocline 47,		144, 172, 179,
238, 267, 274, 278		181, 182, 314, 320
\@empty 336	\	\begingroup 251-253, 438
\@expandedtrue 6		\belowcaptionskip .
\@float 306	\mathbf{A}	$446, 460$
\@hangfrom 412	$\above captions kip . 450$	\bfseries \dots 47,
$\ensuremath{\verb{Qhardcopytrue}}$ 5	abstract (environ-	389, 394, 404,
\@highpenalty	ment) 234	412, 416, 421, 439
. 45, 271, 272, 442	\abstractname	\bibhang 351, 367, 378
$\ensuremath{\verb{Qhyperloadedfalse}}$. 97	$\dots 208, 235, 236$	\bibindent 370
$\ensuremath{\verb{Qhyperloadedtrue}}$. 97	\acknowledgename	\bibitemsep 368, 377
\@hypermetadata $\underline{194}$	$$ $\underline{208}$, 224	\bibleftmargin 369
\@ifpackageloaded .	acknowledgments (envi-	\bibliographytypesize
96, 363, 381–383	ronment) \dots $\underline{220}$	$\dots \dots \dots \underline{359}$
\@keywords $\underline{188}$, 197 , 202	\addcontentsline	\bibname 210, 318,
\c 0keywordstrue 193	$\dots 228, 232,$	321, 327-329,
$\c \c \$	236, 284, 321,	352, 353, 364,
\@listdepth 67, 75	328, 353, 365,	365, 371, 372, 376
\@litstr 195-198	372, 376, 386, 433	\bibpostamble 349
\c 0makecaption $\underline{449}$	\addpenalty	\bibpreamble 349
\@makechapterhead . $\underline{392}$	45, 271-273, 436	\bibsection 349 , 359
\@makeschapterhead . $\underline{392}$	$\verb \addtolength . 16, 18,$	\bibsep $\dots 350,366$
$\ensuremath{ t 0}$ Manuscripttype 98 ,	23, 24, 27, 28,	biosketch (environ-
127, 147, 174, 186	35, 36, 38, 40,	ment) 384

\biosketchname	\endgroup . $251-253, 443$	318, 327, 352,
$\dots \ \underline{208}, 385, 386$	\endlist $\underline{72}$, 90	360, 375, 387, 454
\blstretchiness . 51 , 61	\endverbatim . $80, 82, 84$	\ftype@musex 302
\box 458	\enlargethispage 134	**
	environments:	H
\mathbf{C}	abstract \dots 234	\hardcopy <u>1</u>
\c@chapter 298, 300	acknowledgments 220	\hbox 173,
\c@enumiv 330, 339	biosketch 384	248, 249, 251, 252
\c@musex 298, 300	$\mathtt{dedication} \ \ldots \ \underline{220}$	\headheight <u>13</u>
\c@pyrighttrue 8	listofabbrevs $\underline{226}$	\headsep <u>13</u>
\c@secnumdepth 395	listofsymbols $\underline{226}$	\hfill 250
\c@tocdepth 44, 241, 435	$\mathtt{musex} \dots \underline{305}$	\hskip 247, 440
\centering 394, 404, 412	$\texttt{musex*} \dots \underline{305}$	\hypersetup $200-202$
\ch@pleaderstrue 7	references \dots 317	I
\chapheadskip	singlespaced 93	\if@department <u>121</u> , 148
$\dots \underline{388}, 393, 403$	thebibliography 326	\if@expanded $\underline{1}$,
\chapter $224, 227,$	$\mathtt{verbatim} \dots \underline{77}$	50, 94, 356, 358, 362
231, 235, 259,	$\mathtt{verbatim*} \dots \dots \underline{77}$	\if@hardcopy 1, 34
282, 318, 327,	\evenoddoffset 32	\if@hyperloaded 95 ,
352, 364, 371, 385	\evensidemargin	130, 203, 261, 432
\chapterleaders \dots 1	$$ $\underline{25}$, 38, 40	\if@keywords
\ClassError . 98, 102,	\expanded $\underline{1}$	<u>188</u> , 197, 202
106, 110, 113, 117	\expandspacing	\if@openright
\cleardoublepage		171, 206, 221
\dots 171, 206, 221	\ext@musex 303	\if@restonecol 262, 287
\clearpage $171, 206,$		\if@subject <u>188</u> , 196, 201
221, 225, 229,	\mathbf{F}	\if@twocolumn . 258, 281
233, 237, 325, 387	\f@apacite 359 , 382	\if@twoside 37
\clubpenalty $342, 343$	\f@biblatex <u>373</u> , 381	\ifb@ckadded 269
\college 107, 108, $\underline{121}$	\f@ldappendix . 430, 431	\ifc@pyright $\underline{1}$, 155
\committeeperson $\underline{165}$	\f@oendlist . $\underline{72}$, 90, 348	\ifch@pleaders $\underline{1}$, 42
\commskip . 161 , 168 , 178	\f@oendverb 80, 82	\iffront@dded 264
\commwidth $161, 168, 169$	\f@oldpost 354, 358	\ifpdf 130, 203, 261
\contentsname	\f@oldpre 354, 355	\interlinepenalty .
$\dots \ \underline{208}, 259, 260$	\f@olist	245,
\copyright $\underline{1}$, 156	<u>64,</u> 89, 330, 356, 362	319, 340, 355,
\csname 79, 84	\f@overbat 77, 81	361, 375, 398, 405
\CurrentOption 9	\footenats 78	\itemsep 337
ъ.	\f@plainnat <u>349</u> , 383	\itshape 429
D	\f0savenlist	
\DeclareOption 5-9	356, 358, 362	K
dedication (environ-	\fcapindent <u>446</u> , 453	\keywords 188
ment) $\dots 220$	\fnum@musex 304	_
\defensedate	\footskip <u>17</u>	L
114, 115, 121	\fps@musex 301	\1@appendix \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
\degree 99, 100, <u>121</u>	\front@ddedtrue 266	\1@backmatter <u>269</u>
\degreeyear 111, 112, <u>121</u>	\frontmatter <u>204</u>	\lambda local loc
\department $103, 104, \underline{121}$	\FSU@lofsomething .	\ldfigure <u>276</u> , 295
.	. <u>280</u> , 290, 292, 294	\lambda 10 frontmatter $\dots 264$
E 105 107 100	\FSU@onormalsize	\10musex
\edef 195-197, 199	. <u>58</u> , 81, 83, 87,	\10table <u>276</u>
\end@dblfloat 310	92, 94, 136, 170,	\labelsep 333
\end@float 307	225, 227, 231,	\labelwidth 331, 332
\endcsname 79, 84	237, 280, 313,	\LARGE 389, 394, 404

\Large 412	\noindent . 175, 176, 183	\setbox 173, 251, 254
\large 416	\normalcolor $251-253$	\setcounter 170
\leaders 248	\normalfont	\settowidth 331
$\label{leavevmode} \ \dots \ 246, 439$. 251–253, 412,	\sfcode 345
\leftmargin 332, 333	416, 421, 426, 429	\sffamily 426
\leftskip 243,	\normalsize	singlespaced (environ-
247, 322, 440, 453	58, 75, 224, 235, 385	ment) $\dots \dots 93$
\list <u>64</u> , 89, 356, 358, 362	\null 247, 254	\sloppy 319, 341
\listabbrevname		\slshape 426
$\dots 208, 231, 232$	O	\smblstretchiness $51,69$
\listbaselineskip $55,68$	\oddsidemargin 25 , 36	\st@rtbibchapter 371
\listfigurename 214, 292	\onecolumn 258, 281	\subject <u>188</u>
\listmusexname 208 , 294		\subparagraph 417
listofabbrevs (envi-	P	\subsection 409
ronment) \dots $\underline{226}$	\p@enumiv 336	\subsubsection 417
\listoffigures 289	\pagebreak 157, 187, 222	
\listofmusex \dots 289	\pagenumbering 204, 207	${f T}$
listofsymbols (envi-	\paperheight $17, 22, 131$	\tableofcontents $\underline{257}$
ronment) \dots $\underline{226}$	\paperwidth 26	\textheight $\underline{17}$, 133
\listoftables 289	\paragraph <u>417</u>	\textwidth . 25 , 35 , 175
\listspenalty . 238 , 262	\parfillskip 243	the bibliography (envi-
\listsymname	\parindent 244 ,	ronment) \dots 326
$\dots 208, 227, 228$	323, 394, 404,	\thechapter 298, 300, 396
\listtablename 215, 290	418, 423, 428, 439	\theenumiv 339
\LoadClass 11	\parsep 338	\theHmusex 299
\long 449	\parskip 324	\themusex 297, 304
	\PassOptionsToClass . 9	\toclevel@appendix . $\underline{445}$
\mathbf{M}	\pdfbookmark 130, 261	\toclevel@backmatter
\m@th 248	\pdfinfo 198	$ \underbrace{275} $
\mainmatter $\underline{204}$	\penalty 442	\toclevel@frontmatter
\makebox 168, 169	\ProcessOptions 10	$ \underline{268} $
\makecommitteepage . $\underline{170}$	_	\topmargin <u>13</u>
\MakeLowercase 174, 186	R	\topskip 13
\maketitle $\underline{129}$	\raggedright 175, 416	\twocolumn 262, 287
\MakeUppercase	references (environ-	
$\dots 138, 142,$	ment) <u>317</u>	${f U}$
145, 260, 285,	\refindent <u>311</u> ,	\unhbox 175, 176
329, 396, 399, 406	322, 323, 351,	\usecounter 335
\manuscripttype	367, 369, 370, 378	
\dots 118, 119, <u>121</u>	\refitemsep	V
\mkern 249		\verbatim 77, 81
musex (environment) . 305	350, 366, 368, 377	verbatim (environ-
musex* (environment) 305	\RequirePackage 12	ment) <u>77</u>
\musexname $\underline{208}$, 304	$\verb \rightskip \dots 243, 453$	verbatim* (environ-
NT	g	ment) $\dots $ 77
N	S 400	XX 7
\newcount 238	\section <u>409</u>	W
\newskip 311, 312	\semester <u>121</u>	\widowpenalty 344