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The `usthesis` Class and Style*

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Abstract

The `usthesis` class/style files are provided to typeset reports, theses and dissertations that conform to the requirements of the Engineering Faculty of the University of Stellenbosch, South Africa.

The class file `usthesis.cls` is based on the standard L^AT_EX `book` class, while `usthesis.sty` is a style file to be loaded on top of the very powerful `memoir` class. Both options give identical output, but the benefit of the using `memoir` is that it has many additional command and environments for formatting and processing of a document.

`Usthesis` is primarily concerned with the formatting of the front matter such as the title page, abstract, etc. It also works together with the `babel` package to provide language options to typeset documents in Afrikaans or in English.

*This class has version number v3.0, last revised 2007/04/19.

[†]Any help with proofreading this document will be appreciated.

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1 User Interface

1.1 `usthesis` class and style files

Two style files are provided to typeset theses of the University of Stellenbosch. The class file `usthesis.cls` is based on the standard L^AT_EX `book` class, while `usthesis.sty` is a style file to be loaded on top of the very powerful `memoir` class. Both options give identical output, but the benefit of the using `memoir` is that it has many additional command and environments for formatting and processing of a document.

1.1.1 Loading the `usthesis` packages

The `usthesis.cls` class is loaded in the document preamble with

```
\documentclass[12pt,oneside,openany,a4paper, %... Layout
               afrikaans,UKenglish,         %... Global language drivers
               masters-t, goldenblock        %... Thesis options
]{usthesis}
```

or `usthesis.sty` together with the `memoir` class

```
\documentclass[12pt,oneside,openany,a4paper, %... Layout
               afrikaans,UKenglish,         %... Global language drivers
               ]{memoir}
\usepackage[masters-t, goldenblock]{usthesis} %... Thesis options

% --- If hyperref is loaded together with memoir ---
\iftrue
  \usepackage[⟨hyperref options⟩]{hyperref} %... Hyperlinks
  \usepackage{memhfixc}                    %... Memoir fix
\else
  \usepackage{nohyperref}                  %... Disable hyperlinks
\fi
\hypersetup{⟨hyperref setup options⟩}
```

Please note when the `memoir` is used together with `hyperref` the the `memhfixc` patch must be loaded afterwards.

1.1.2 The `usthesis` options:

Document type options: This options for the `usthesis` class/style are for specific formatting of the title and abstract pages of the different document types.

report: Final year project reports, etc.

masters-a: An assignment masters degree.

masters-t: A thesis masters degree.

PhD: A PhD dissertation handed in for examination.

PhDfinal: A PhD dissertation handed in for publication after acceptance.

Type block sizes: The ISO A4 paper size (297,3 mm \times 210,2 mm) is not ideally suited for typesetting off books. The *A5 type block* (fig 1) and the *golden section type block* (fig 2) are layouts designed by the great typographer Jan Tschichold which adheres to the classic typographic principals.¹ A 12 pt font size is recommended for most fonts.

The following options are provided as part of the `usthesis` class/style options:

- `a5block:` ISO A4 paper with A5 type block
- `goldenblock:` ISO A4 paper with golden ration type block,
- `stdblock:` Standard L^AT_EX type block [default].

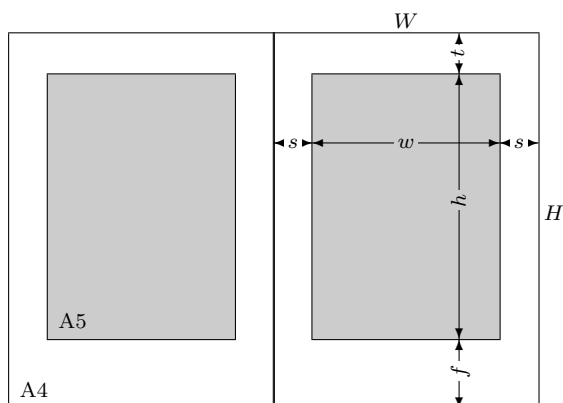


Figure 1: ISO A4 paper with A5 type block (`A5block`)

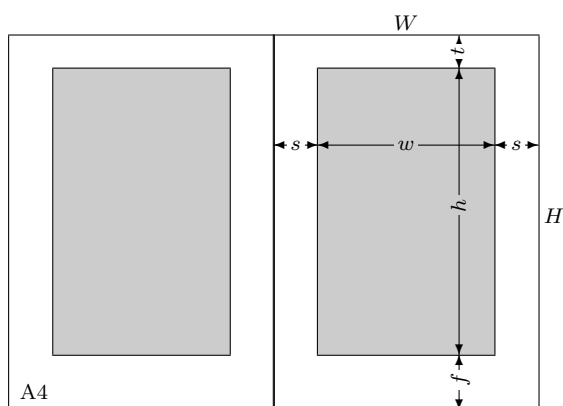


Figure 2: ISO A4 paper with golden ration type block (`goldenblock`)

¹The Tschichold designs have a 3:5 ratio between the inner and outer margins. The `usthesis` package employs a symmetric layout since v3.0.

Table 1: Page layout parameters

	A5 type block (a5block)		Golden section type block (goldenblock)	
Page width	W	= 210,2 mm	W	= 210,2 mm
Page height	$H = \sqrt{2} W$	= 297,3 mm	$H = \sqrt{2} W$	= 297,3 mm
Block width	$w = H/2$	= 148,7 mm	$w = 2W/3$	= 140,1 mm
Block height	$h = W$	= 210,2 mm	$h = H - W/3$	= 227,2 mm
Side margin	$s = (W - w)/2$	= 30,8 mm	$s = W/6$	= 35,0 mm
Top margin	$t = 3(H - h)/8$	= 32,7 mm	$t = 3W/24$	= 26,3 mm
Foot margin	$f = 5(H - h)/8$	= 54,4 mm	$f = 5W/24$	= 43,8 mm

The user can set up custom page layouts if needed. The setup depends on the class file used. The following example is for a page with 25 mm margins all around.

1. memoir.cls with usthesis.sty

```
\documentclass[a4paper,<options>]{memoir}
\usepackage[<options>]{usthesis}
\setlrmarginsandblock{25mm}{25mm}{*} % Left/Right margins
\setulmarginsandblock{25mm}{25mm}{*} % Upper/Lower margins
\checkandfixthelayout
\setlength{\headwidth}{\textwidth}
```

2. usthesis.cls

```
\documentclass[a4paper,<options>]{usthesis}
\usepackage[hmargin={25mm,25mm},vmargin={25mm,25mm}]{geometry}
```

1.1.3 L^AT_EX class options:

The gray `boxes` are the L^AT_EX default options, while `boxed` options are the preferred options of usthesis package.

`10pt`, `11pt`, `12pt`: Sets the size of the main font in the document. The preferred font size depends very much on the font type. For Computer Modern (the default L^AT_EX font) is 11 or 12 points the most legible option on an A4 paper size.

`a4paper`, `a5paper`, `b5paper`, `letterpaper`, `executivepaper`, `legalpaper`: Defines the paper size. In South Africa is the ISO A4 paper size the standard.

`fleqn`: Typesets displayed formulae left-aligned instead of centred. This option is a matter of personal taste.

`leqno`: Places the numbering of formulae on the left hand side instead of the right. This is the traditional layout of the American Mathematical Society, but is not used for Engineering theses.

`onecolumn`, `twocolumn`: Instructs L^AT_EX to typeset the document in one column or two columns. The University of Stellenbosch Engineering theses are traditionally single column documents.

`twoside`, `oneside`: Specifies whether double or single sided output should be generated. Note that this option concerns the style of the document only. The option `twoside` does not tell the printer you use that it should actually make a two-sided printout. If a printer with double sided printing capability is available, then this option can be used.

`openright`, `openany`: Makes chapters begin either only on right hand pages or on the next page available. Selection of `openright` depends on the selection of the `twoside` option.

1.1.4 Global package options:

Global options for packages and drivers can be loaded together with the class options. The most important options are the display drivers for `color`, `graphicx` and `hyperref` as well as the language options for `babel`, `varioref`, etc.

The **display drivers** are normally loaded by the L^AT_EX config system defaults.

The **global language options** for `babel` can be set with:

```
\documentclass[⟨options⟩, afrikaans, UKenglish]{usthesis}
\usepackage{babel}
\usepackage{varioref}
```

1.2 Required Packages

1.2.1 Language setup

L^AT_EX provides for a variety of languages. It set up hyphenation patterns and defines language specific output such as chapter names, etc. The default language is American style English, while the South African English is the United Kingdom style.

Language options must be loaded with the `babel` package. The last language declared is the default document language.

```
\usepackage[afrikaans, UKenglish]{babel} → UK English default.
\usepackage[UKenglish, afrikaans]{babel} → Afrikaans default.
```

or preferably with global options

```
\documentclass[⟨options⟩, afrikaans, UKenglish]{usthesis}
\usepackage{babel}
```

Languages can be made active with the `\selectlanguage{⟨lang-name⟩}` command from `babel`. In the `usthesis` class, a command

`\AorE` `\AorE{⟨Afr-teks⟩}{⟨Eng-text⟩}`

is provided that types one of the two arguments, depending on whether `afrikaans` is the active language or not. Environments for changing the language options locally are also provided in `usthesis` (if languages are installed with `babel`).

Afr	<code>\begin{Afr}</code>	<code>\begin{Eng}</code>
	<i>Afr-teks ...</i>	<i>Eng-text ...</i>
Eng	<code>\end{Afr}</code>	<code>\end{Eng}</code>

Table 2: Definitions from `babel` loaded with the `afrikaans` option.

"e	The character ë, which hyphenates as -e. Implemented for the letters ä, ë, ï, ö and ü.
"	Disable ligatures (ff, fi, ffi, etc.) at this position but allow a hyphen, e.g.: The word 'stoffilter' looks better as 'stoffilter'. It is then hyphenated as 'stof-filter'
"-	An explicit hyphen sign, allowing hyphenation in the rest of the word.
"~	To produce a hyphen character without the following discretionary break after it, e.g.: 'x-straal'.
" "	To produce an invisible breakpoint.
"“	Lowered double left quotes, e.g.: „lowered” versus “normal”.
"’	Normal double right quotes.
"/	Enable hyphenation in two words, written together but separated by a slash, for example 'uitdrukking/opmerking'.
\-	A redefinition of the standard discretionary hyphen, \-. The new version indicates an extra hyphenation position, while allowing other hyphenation positions to be generated automatically.

With the `afrikaans` option of `babel` the character " is made active. In table 2 an overview is given of its purpose. One of the reasons for this is that in the Afrikaans language a word with a dieresis can be hyphenated just before the letter with the umlaut, but the dieresis has to disappear if the word is broken between the previous letter and the accented letter, for example 'geëerd' becomes 'ge-eerd'. It is extremely important that the commands "a, "e, ..., are used in Afrikaans documents, and not \ "e, etc., and neither the direct input of ë with `Alt+137` (if `latin1` input encoding is selected).

The `afrikaans` option sometimes has problems with the hyphenation of the very long Afrikaans words, but it does a fairly good job, e.g.:

```
\showhyphens{appelkooskonfytblik} → ap-pel-koos-kon-fyt-blik
```

The simplest way to correct a wrongly hyphenated word is to include the discretionary hyphen command \- in the word: e.g.: `kom\ -buis\ -kas`.

Words that are incorrectly hyphenated and appear frequently within the document can be put into a list of exceptions in the preamble of the document:

```
\hyphenation{Kom-buis-kas ...}
```

It is also important to note that words that contain "e, etc. must be hyphenated by hand when they are near linebreaks, for example: `koëffisiëntematriks`

```
ko"ef\ -fisi"en\ -te\ -mat\ -riks
```


1.2.2 Input font encoding

In Afrikaans there are many words containing characters such as é, ô, à, ï, etc. These characters can be included directly in the input text file, except ä, ë, ï, ö and ü, which need to be inserted as "a, ..., for proper hyphenation (see previous section). As an example by typing `Alt+136`, you obtain ê. If the Western European input encoding (latin1) is loaded, L^AT_EX will recognize these characters.

```
\usepackage[latin1]{inputenc}
```

1.2.3 Output font encoding

The classic T_EX Computer Modern fonts contain only 126 characters (7-bit) per font set (OT1 encoding). It does not contain glyphs for characters such as ê. These characters are formed by two characters that are overprinted (^+e). The result is that Afrikaans words such as “*koëffisiëntematriks*,” are not hyphenated automatically. The solution is to use the T1 encoding scheme with 256 character (8-bit) font sets. Postscript Type 1 and TrueType fonts can be configured, with the aid of T_EX’s virtual font mechanism, to be available for L^AT_EX. Font handling can be switched to T1 encoding (if you have the Postscript or the re-encoded TrueType fonts).

```
\usepackage[T1]{fontenc}
```

1.2.4 Font selection

To obtain a PDF e-document of your thesis you need to use Postscript fonts (and T1 encoding for Afrikaans). There are many free Postscript text fonts available in the T_EX distributions, but Postscript fonts with a full set of mathematical symbols are very scarce. The freely available ones are:

Computer Modern (CM-super): Newer L^AT_EX installations contain this classic T_EX font in Type 1 format. This font set is loaded by default if T1 encoding is specified without any other font loaded. This document is set in Computer Modern.

Palatino: This beautiful font can be loaded with the mathpazo package. Palatino is one of the standard Postscript fonts on every Postscript printer.

Make sure that the fpl fonts are loaded. They provide true small caps and old style figures for the Palatino fonts.

Times Roman: This font is loaded with the mathptmx package. It contains no bold math characters or true small caps. Please do not use this font for theses, because it was designed for narrow newspaper columns, resulting in very narrow characters. It is just not appropriate for single column theses.

Utopia: This font is loaded with the fourier package. It contains no true small caps. This font is very good on low resolution output devices.

CMbright: This is a sans serif font and is part of the CM-super font set. It can be loaded with the cmbright package. You need the hfbright fonts installed for the math symbols. A document with a sans serif font, such as CMbright, must be set ragged right. Use the `\RaggedRight` command of the ragged2e package.

Euler: This is a math font only and can be used with fonts such as Charter that do not have math characters. It is loaded with the `eulervm` package.

An example of a typical setup for an Afrikaans report with mathematics is:

```
\documentclass[report,                %... Document type
               12pt,oneside,openany,a4paper,%... Layout
               a5block,                %... Typeblock
               UKenglish,afrikaans,    %... Global language drivers
               ]{usthesis}
\usepackage{babel}%..... Language setup
\usepackage[latin1]{inputenc}% Recognizes ê, ë, etc
\usepackage{amsmath}%..... Advanced maths (before fonts)
\usepackage[T1]{fontenc}%..... Type 1 output fonts for proper hyphenation
\usepackage{textcomp}%..... Additional text characters
\usepackage{fourier}%..... Utopia (if you want a different font)
\usepackage{bm}%..... Bold math characters (after fonts)
```

1.2.5 Mathematics

Normal L^AT_EX contains many math typesetting commands and environments, but for serious mathematical typesetting you need to load the American Mathematical Society ($\mathcal{A}\mathcal{M}\mathcal{S}$) math packages. The $\mathcal{A}\mathcal{M}\mathcal{S}$ packages also include additional math symbols, but load them only if really necessary, because they are very big.

```
\usepackage{amsmath}
\usepackage{amssymb}% only if necessary
```

Bold math symbols can be obtained with the $\mathcal{A}\mathcal{M}\mathcal{S}$ command `\boldsymbol` or with the more advanced `\bm` command from the `bm` package.

1.2.6 Graphics and Color

The `graphicx` package is needed by the `usthesis` package to format the title page and must be loaded in the document preamble. The `color` package is optional, but very useful.

```
\usepackage[<options>]{graphicx}
\usepackage[<options>]{color}
```

If you need display drivers (such as `dvips`, `pdftex`, etc.) different from the default options, is it important that they are passed on to all the packages as a global option. With the MiK_TE_X this is achieved with the standard configuration file.

1.2.7 Line spacing

The guidelines for University of Stellenbosch theses dictates that either single, one-half or double line spacing be used. Line spacing can be obtained with the `setspace` packages. With this packages, footnotes and captions are still single spaced, while no additional vertical spacing is added around display math or in lists.

```

\documentclass[12pt,oneside,openany,a4paper,%... Layout
              afrikaans,UKenglish,%..... Global language drivers
              ]{memoir}
\usepackage[masters-a,a5block]{usthesis}%..... Document type
:
\usepackage[onehalfspacing]{setspace}%..... Line spacing
:
\begin{document}
  \frontmatter
  \begin{singlespace}
    \TitlePage%..... Single spaced title page
  \end{singlespace}
  :

```

1.2.8 Paragraph indent and spacing

The conventional way of typesetting running text has no separation between paragraphs, and the first line of each paragraph in a block of text indented.

It is sometimes required that paragraphs are separated with a blank line and without any first line indent. This can be obtained with the `parskip` package.

```
\usepackage{parskip}
```

Please note that this is not recommended for theses containing large amounts of mathematics, because it is difficult, if not impossible, to see where a new paragraph starts between equations.

1.3 Useful packages

The following are a number of packages that are very useful when writing a thesis.

1.3.1 SI units and numbers

SIstyle: This package is essential for the proper typesetting of SI units and numbers. It has an option for South African requirements. Read the documentation for the proper typesetting of units and numbers.

numprint: This packages typeset numbers and decimal columns in tables.

1.3.2 Tables and arrays

array: An extended implementation of the array and tabular environments which implements options to format columns.

longtable: Gives non-floating multi-page tables. It includes continuation headers.

dcolum: The package provides a system for defining columns of entries in an array or a table which are to be aligned on a “decimal point”.

dcolum: It modifies the width of certain columns to obtain a table with required width.

booktabs: The package provides some additional commands to enhance the quality of tables in L^AT_EX. Guidelines are given as to what constitutes a good table. The documentation gives a very good discussion on the design of publication quality tables.

1.3.3 Hyper links

hyperref: It extends the functionality of all the L^AT_EX cross-referencing commands (including the table of contents, bibliographies etc) to produce hypertext links; it also provides new commands to allow the user to write ad hoc hypertext links, including those to external documents and URLs.

url A form of `\url` that allows line breaks at certain characters or combinations of characters, accepts reconfiguration, and can usually be used in the argument to another command. It is intended for email addresses, hypertext links, directories/paths, etc., which normally have no spaces.

It is implemented by `hyperref`.

A typical setup for hyper links (at the end of the preamble) is:

```
\iftrue
  \usepackage{hyperref}%..... Hyperlinks & backreferences
  %\usepackage{memhfixc} %..... Memoir fix
  \hypersetup{plainpages = false,
    breaklinks=true,
    a4paper=true,
    linktocpage,
    linkbordercolor = {0.8 0.8 0.8},
    urlbordercolor = {0.8 0.8 0.8},
    menubordercolor = {0.8 0.8 0.8},
    filebordercolor = {0.8 0.8 0.8},
    runbordercolor = {0.8 0.8 0.8},
    citebordercolor = {0.8 0.8 0.8},
    pagebordercolor = {0.8 0.8 0.8},
    pdfauthor={Danie Els},
    pdfkeywords={}}
\else
  \usepackage{nohyperref}%..... Disable hyperlinks
  \usepackage{url}
\fi
```

2 Front matter

2.1 Title page

The title page is inserted on the first page of a document with the command

`\TitlePage` `\TitlePage`

Depending on the selected options, the following commands are used to set the contents of the title page:

Address

`\address` `\address{\full address}`

The address must be included in Afrikaans and English for Masters and PhD documents.

```
\address{\AorE{
  Departement Meganiese Ingenieurswese,\
  Universiteit van Stellenbosch,\
  Privaatsak X1, 7602 Matieland, Suid Afrika.
}{
  Department of Mechanical Engineering,\
  University of Stellenbosch,\
  Private Bag X1, 7602 Matieland, South Africa.
}}
```

Author

`\author{\short name}{\full names}`

Provides the author name not only for the title page, but for various other places in the document.

```
\author{J.F.\ Els}{Jacobus Frederik Els}
```

Date

`\date{\month}{\year}`

The date when the document is handed in. The arguments must be numerical, e.g.:

```
\date{10}{2003} → October 2003
```

Degree/Subject

`\degree` `\degree{\abbr}{\full name}` or `\subject{\abbr}{\full name}`

The degree or subject names. Please refer to the yearbook for the *correct* names. The degree names must be available in Afrikaans and English.

```

\degree{\AorE{MScIng (Meg)}{MScEng (Mech)}}
      {\AorE{Magister in die Natuurwetenskappe in Meganiese Ingenieurswese}
        {Master of Science in Mechanical Engineering}}
or
\subject{MP 487}{Meganiese Projek 487}

```

Description

\ReportDescript
\ThesisDescript

\ReportDescript{<text>} \ThesisDescript{<text>}
--

Set the description for reports.

```
\ReportDescript{Finale Verslag}
```

There is a similar command for theses and dissertations, \ThesisDescript, but its contents is predefined. The for a master thesis it can be customized as

```

\ThesisDescript{\ThesisType\ presented in partial fulfilment
of the requirements for the degree of\par
\vspace{1em}
{\bfseries Master of Science in Mechanical Engineering\par}
\vspace{1em}
at the \USName}

```

If needed the thesis type can be changed with the (predefined) command \ThesisType.

Supervisor/Studyleader/Promotor

\studyleader
\supervisor
\promotor

\supervisor[<align>]{<name>} or \supervisor{<name> \and <name>} \studyleader[<align>]{<name>} or \studyleader{<name> \and <name>} \promotor[<align>]{<name>} or \promotor{<name> \and <name>}

The \studyleader, \supervisor and \promotor commands are synonyms and the output depends on the thesis type. The commands also have a starred (*) form that stack the names of multiple supervisors. The \and has an optional argument, e.g.: \and[1ex], for spacing in a stacked environment.

```
\supervisor{Mnr.\ D.N.J.\ Els} → Supervisor: Mnr. D.N.J. Els
```

or

```

\supervisor{Mnr.\ D.\ Els
\and
Dr.\ J.\ Smith} → Supervisors:
Mnr. D. Els Dr. J. Smith

```

or

```

\supervisor*{Mnr.\ D.\ Els
\and[0ex]
Dr.\ J.\ Smith} → Supervisors:
Mnr. D. Els
Dr. J. Smith

```

or for PhD and PhDfinal options

<pre>\promotor{% Prof A.H.\ Basson\\[.5ex] Mechanical Engineering\\ University of Stellenbosch \and Prof P.A.\ Vermeer\\[.5ex] Institut für Geotechnik\\ Universität Stuttgart}</pre>	→	<table><tr><th colspan="2">Promotors:</th></tr><tr><td>Prof A.H. Basson</td><td>Prof P.A. Vermeer</td></tr><tr><td>Mechanical Engineering</td><td>Institut für Geotechnik</td></tr><tr><td>University of Stellenbosch</td><td>Universität Stuttgart</td></tr></table>	Promotors:		Prof A.H. Basson	Prof P.A. Vermeer	Mechanical Engineering	Institut für Geotechnik	University of Stellenbosch	Universität Stuttgart
Promotors:										
Prof A.H. Basson	Prof P.A. Vermeer									
Mechanical Engineering	Institut für Geotechnik									
University of Stellenbosch	Universität Stuttgart									
or										
<pre>\promotor[c]{% Prof A.H.\ Basson\\[.5ex] Mechanical Engineering\\ University of Stellenbosch \and Prof P.A.\ Vermeer\\[.5ex] Institut für Geotechnik\\ Universität Stuttgart}</pre>	→	<table><tr><th colspan="2">Promotors:</th></tr><tr><td>Prof A.H. Basson</td><td>Prof P.A. Vermeer</td></tr><tr><td>Mechanical Engineering</td><td>Institut für Geotechnik</td></tr><tr><td>University of Stellenbosch</td><td>Universität Stuttgart</td></tr></table>	Promotors:		Prof A.H. Basson	Prof P.A. Vermeer	Mechanical Engineering	Institut für Geotechnik	University of Stellenbosch	Universität Stuttgart
Promotors:										
Prof A.H. Basson	Prof P.A. Vermeer									
Mechanical Engineering	Institut für Geotechnik									
University of Stellenbosch	Universität Stuttgart									

Note that some supervisors may prefer the term “study leader”. This can be incorporated by adding the following to the preamble of your document:

```

\renewcommand\StudyLeaderAFR{Studieleier:}
\renewcommand\StudyLeadersAFR{Studieleiers:}
\renewcommand\StudyLeaderENG{Study leader:}
\renewcommand\StudyLeadersENG{Study leaders:}

```

Title

The title of the document is inserted on the front page as well as on the abstract pages of Masters or PhD theses.

```
\title{<title text>}
```

For a normal report, a simple title is sufficient, e.g.:

```
\title{Forced granular flow}
```

For a Masters or PhD thesis, the title must make provisions for both languages.

For an English document:

```

\title{\AorE{Geforseerde Partikelvloei}\[1ex]
\normalfont\small\itshape(‘‘Forced Granular flow’’)}%
{Forced granular flow}}

```

and for an Afrikaans document

```

\title{\AorE{Geforseerde Partikelvloei}%
{Forced granular flow}\[1ex]
\normalfont\small\itshape(‘‘Geforseerde Partikelvloei’’)}}

```

The user can create his or her own title page, for example:

```

%-----
\thispagestyle{empty}
\vfill
{\LARGE\noindent Seakeeping control of HYSUCATs \par}
\vspace{2em}
{\large\noindent by \par}
\vspace{2em}
{\Large\noindent Giovanni Sergio Milandri \par}%
\vfill\noindent
\begin{minipage}{.9\textwidth} \large\slshape\raggedright
Thesis presented in partial fulfilment of the requirements for the degree of
Master of Science in Mechanical Engineering at the University of Stellenbosch
\end{minipage}
\vfill
{\normalfont\noindent
Department of Mechanical Engineering\\ University of Stellenbosch\\
Private Bag X1, 7602 Matieland, South Africa \par}
\vfill
{\normalsize\noindent Supervisors:\\[1.5ex]
\begin{tabular}{@{}ll@{}}
Prof J.L. van Niekerk & Dr G. Migeotte \\[.5ex]
Dept of Mechanical Engineering & Unistel Technologies (Pty) Ltd\\
University of Stellenbosch & University of Stellenbosch
\end{tabular}\par}
\vspace{2em}
{\large\noindent April 2006\par}%
\clearpage
%-----

```

The copyright information in a thesis or dissertation is compulsory from 2007. It is added to the bottom of the declaration page. The default copyright holder is the University of Stellenbosch.

The default copyright holder can be changed with:

<code>\SetCopyrightHolder</code>	<code>\SetCopyrightHolder{(new copyright holder)}</code>
----------------------------------	--

The copyright output can be switched of with

\SetCopyrightOff	\SetCopyrightOff
------------------	------------------

Note that the `\CopyrightPage` command is not used any more. It is still included for backward comparability purposes, does nothing.

2.4 Declaration page

Every thesis and dissertation *must* include a declaration page.

`\DeclarationPage`

<code>\DeclarationPage</code>

The command set the required text in the default language and output the copyright statement.

2.5 Abstract

An `abstract` environment is provided that prints a page containing all the thesis information. The layout of an abstract for a report differs from that of a thesis or a dissertation. It is also important to note that theses and dissertations require an English and an Afrikaans abstract.

`abstract`

<code>\begin{abstract}</code>	<code>\begin{abstract}[\langle language \rangle]</code>
Text in default language ...	Text in $\langle language \rangle$...
<code>\end{abstract}</code>	<code>\end{abstract}</code>

If the traditional abstract page is preferred, then use a normal chapter

```
\chapter{Abstract}
This thesis ...
```

2.6 Acknowledgements, Dedications, etc.

Acknowledgements, etc. can be included in the front matter of a document after a `\chapter` command, e.g.:

```
\chapter{Acknowledgements}
I would like to express my sincere gratitude ...
```

3 Back Matter

3.1 Bibliography/List of References

The `USbib` package is provided to format bibliographies for theses and dissertations of the University of Stellenbosch. The package is language sensitive and provides the correct output for both Afrikaans and English theses.

Please note the difference between a bibliography and a List of references:

Bibliography: The list of all the citations in numerical order of citation, e.g.:

1. Rhodes, M. *Introduction to Particle Technology*. Wiley, New York (1998).
2. Cleary, P.W. The filling of dragline buckets. *Mathematical Engineering in Industry*, vol. 7, no. 1 (1998), pp. 1–24.

List of References: For author-year citations, all the citations sorted in alphabetic order, e.g.:

Cleary, P.W. (1998). The filling of dragline buckets. *Mathematical Engineering in Industry*, vol. 7, no. 1, pp. 1–24.

Rhodes, M. (1998). *Introduction to Particle Technology*. Wiley, New York.

The default name in the USthesis package is “Bibliography”. To change this to “List of References” (for a thesis), we have to overrule the babel setup. Make the following declarations

```
\documentclass[12pt,oneside,openany,a4paper,%... Layout
               afrikaans,UKenglish,%..... Global language drivers
               ]{memoir}
\usepackage[masters-t,a5block]{usthesis}%..... Document type
\usepackage{babel}%..... Language setup
:
\usepackage{usbib}%..... Bibliography
\bibliographystyle{usmeg-a}%..... Author-year style
\addto{\captionsafrikaans}{\renewcommand{\bibname}{Lys van Verwysings}}
\addto{\captionsUKenglish}{\renewcommand{\bibname}{List of References}}
```

Back references (referring to the pages or sections of citations) can be included with the backref package. The backref package loaded as part of hyperref or on its own.:

```
\iftrue
\usepackage[backref=page]{hyperref}%..... Hyperlinks & backreferences
\else
\usepackage{nohyperref}%..... Disable hyperlinks
\usepackage[pageref]{backref}%..... Citation backreferences
\fi
\renewcommand*{\backref}[1]{
\renewcommand*{\backrefalt}[4]{%..... Back reference format
\ifcase #1 %
% Not cited.
\or
(Cited on page~#2.)%
\else
(Cited on pages~#2.)
\fi}
```

An example is:

Rhodes, M. (1998). *Introduction to Particle Technology*. Wiley, New York. (Cited on pages 13 and 15.)

4 Implementation: usthesis

The following modules are used in the implementation to direct docstrip in generating the external files:

`cls` produce the document class `usthesis.cls` based on `book`.
`mem` produce the document style `usthesis.sty` for use with `memoir`.

4.1 Identification

```

1 <{*cls | mem>
2 \NeedsTeXFormat{LaTeX2e}[1999/12/01]
3 <{*cls>
4 \def\US@basetype{book}
5 \ProvidesClass{usthesis}[\USfiledate\space
6                               \USfileversion\space
7                               Stellenbosh Thesis class (DNJ ELS)]
8 </cls>
9 <{*mem>
10 \ProvidesPackage{usthesis}[\USfiledate\space
11                               \USfileversion\space
12                               Stellenbosh Thesis class for use with Memoir (DNJ ELS)]
13 \@ifclassloaded{memoir}%
14   {\PackageInfo{usthesis}{Stellenbosch thesis style for MEMOIR class}}%
15   {\PackageError{usthesis}{You must use the Memoir class}{}}
16 </mem>

```

4.2 Options

4.2.1 Language options

Utility commands:

Utility commands and environments to make local language changes.

`\US@AFRstr` String in the right catcode for tests against `\language`.

```
17 \edef\US@AFRstr{\string afrikaans}
```

`\AorE` Command `\AorE{<Afr>}{<Eng>}` to type text depending on the active language.

```
18 \newcommand{\AorE}[2]{%
19   \ifx\US@AFRstr\language #1\else #2\fi}
```

`Afr` Makes an Afrikaans environment inside an English document.

```
20 \newenvironment{Afr}%
21   {\ifx\language\US@AFRstr\relax\else
22     \selectlanguage{afrikaans}%
23     \fi}%
24   {}
```

`\US@ENGstr` Make provisions for all the different types of English. The command is reset within the options.

```
25 \newcommand*\US@ENGstr{}
26 \let\US@ENGstr=\relax
```

Eng Makes an English environment inside an Afrikaans document.

```

27 \newenvironment{Eng}%
28     {\ifx\relax\US@ENGstr\relax\else
29         \ifx\language\US@ENGstr\relax\else
30             \edef\US@tempa{\noexpand\selectlanguage{\US@ENGstr}}%
31             \US@tempa
32         \fi
33     \fi}%
34     {}

```

Maker commands:

Commands of which the contents are defined later.

Degree or subject

```

35 \newcommand\US@degree{%
36 <cls> \ClassWarning{usthesis}{No degree or subject supplied}%
37 <mem> \PackageWarning{usthesis}{No degree or subject supplied}%
38 \textfb{[No degree!]}
39 \newcommand\US@degreeelong{%
40 <cls> \ClassWarning{usthesis}{No degree or subject supplied}%
41 <mem> \PackageWarning{usthesis}{No degree or subject supplied}%
42 \textfb{[No degree!]}

```

Language options:

Declare all the language specific text in separate macros, enabling language changes with the babel package commands.

University name

Afrikaans and English code:

```

43 \newcommand\USNameAFR{Universiteit van Stellenbosch}
44 \newcommand\USNameENG{University of Stellenbosch}

```

Holder macros that are set by the language setup.

```

45 \newcommand\USName{}

```

Thesis Description

```

46 \newcommand\PhDDescriptAFR{%
47     \ThesisType\ ingelewer vir die graad \US@degreeelong\ aan die \USName}
48 \newcommand\PhDFinalDescriptAFR{%
49     \ThesisType\ goedgekeur vir die graad \US@degreeelong\ aan die \USName}
50 \newcommand\MastersDescriptAFR{%
51     \ThesisType\ ingelewer ter gedeeltelike voldoening aan die vereistes vir die
52     graad \US@degreeelong\ aan die \USName}
53 \newcommand\PhDDescriptENG{%
54     \ThesisType\ presented for the degree of \US@degreeelong\ at the \USName}
55 \newcommand\PhDFinalDescriptENG{%
56     \ThesisType\ approved for the degree of \US@degreeelong\ at the \USName}}
57 \newcommand\MastersDescriptENG{%
58     \ThesisType\ presented in partial fulfilment of the requirements for the degree
59     of \US@degreeelong\ at the \USName}

```

```

\MastersDescript
\PhDDescript
\PhDFinalDescript

```

```

60 \newcommand\MastersDescript{}
61 \newcommand\PhDDescript{}
62 \newcommand\PhDFinalDescript{}

```

Study leader & promotor

```

63 \newcommand\StudyLeaderAFR{Studieleier:}
64 \newcommand\StudyLeadersAFR{Studieleiers:}
65 \newcommand\PromotorAFR{Promotor:}
66 \newcommand\PromotorsAFR{Promotors:}

67 \newcommand\StudyLeaderENG{Supervisor:}
68 \newcommand\StudyLeadersENG{Supervisors:}
69 \newcommand\PromotorENG{Promoter:}
70 \newcommand\PromotorsENG{Promoters:}

```

```

\StudyLeaderType
\StudyLeadersType
  \PromotorType
  \PromotorsType
71 \newcommand\StudyLeaderType{}
72 \newcommand\StudyLeadersType{}
73 \newcommand\PromotorType{}
74 \newcommand\PromotorsType{}

```

Thesis types

```

75 \newcommand\TypeReportAFR{Verslag}
76 \newcommand\TypeAssignmentAFR{Werkstuk}
77 \newcommand\TypeThesisAFR{Tesis}
78 \newcommand\TypePhDAFR{Proefschrift}

79 \newcommand\TypeReportENG{Report}
80 \newcommand\TypeAssignmentENG{Assignment}
81 \newcommand\TypeThesisENG{Thesis}
82 \newcommand\TypePhDENG{Dissertation}

83 \newcommand\TypeReport{}
84 \newcommand\TypeAssignment{}
85 \newcommand\TypeThesis{}
86 \newcommand\TypePhD{}

```

Month names

```

87 \newcommand\MonthAFR[1]{\ifcase#1\or
88   Januarie\or Februarie\or Maart\or April\or Mei\or Junie\or
89   Julie\or Augustus\or September\or Oktober\or November\or
90   Desember\fi}

91 \newcommand\MonthENG[1]{\ifcase#1\or
92   January\or February\or March\or April\or May\or June\or
93   July\or August\or September\or October\or November\or
94   December\fi}

95 \newcommand\MonthName[1]{}

```

Copyright

```

96 \newcommand\CopyrightHolderAFR{\USName}%
97 \newcommand\CopyrightTxtAFR{Kopiereg}
98 \newcommand\CopyrightAnotAFR{Alle regte voorbehou.}

99 \newcommand\CopyrightHolderENG{\USName}

```

```

100 \newcommand\CopyrightTxtENG{Copyright}
101 \newcommand\CopyrightAnotENG{All rights reserved.}

102 \newcommand\CopyrightHolder{}
103 \newcommand\CopyrightTxt{}
104 \newcommand\CopyrightAnot{}

```

Declaration

```

105 \newcommand\ThesisDeclareAFR{%
106   Ek, die ondergetekende, verklaar hiermee dat die werk in
107   hierdie \MakeLowercase{\ThesisType}{} vervat, my eie
108   oorspronklike werk is en dat ek dit nie van te vore in
109   geheel of gedeeltelik by enige universiteit ter verkryging
110   van 'n graad voorgelag het nie.}
111 \newcommand\SignatAFR{Handtekening}
112 \newcommand\DateAFR{Datum}
113 \newcommand\ThesisDeclareENG{%
114   I, the undersigned, hereby declare that the work contained
115   in this \MakeLowercase{\ThesisType}{} is my own original
116   work and that I have not previously in its entirety or in
117   part submitted it at any university for a degree.}
118 \newcommand\SignatENG{Signature}
119 \newcommand\DateENG{Date}
120 \newcommand\ThesisDeclare{}
121 \newcommand\Signat{}
122 \newcommand\Datetxt{}

```

The holder commands

Enclose all the commands into a single command that can be used to change all the language text simultaneously.

`\USextrasafrikaans`

```

123 \newcommand{\USextrasafrikaans}{%
124   \let\USName          =\USNameAFR
125   \let\MasterDescript  =\MastersDescriptAFR
126   \let\PhDDescript     =\PhDDescriptAFR
127   \let\PhDFinalDescript=\PhDFinalDescriptAFR
128   \let\StudyLeaderType =\StudyLeaderAFR
129   \let\StudyLeadersType=\StudyLeadersAFR
130   \let\PromotorType     =\PromotorAFR
131   \let\PromotorsType    =\PromotorsAFR
132   \let\TypeReport       =\TypeReportAFR
133   \let\TypeAssignment   =\TypeAssignmentAFR
134   \let\TypeThesis       =\TypeThesisAFR
135   \let\TypePhD          =\TypePhDAFR
136   \let\MonthName        =\MonthAFR
137   \let\CopyrightHolder  =\CopyrightHolderAFR
138   \let\CopyrightTxt     =\CopyrightTxtAFR
139   \let\CopyrightAnot    =\CopyrightAnotAFR
140   \let\ThesisDeclare    =\ThesisDeclareAFR
141   \let\Signat           =\SignatAFR
142   \let\Datetxt          =\DateAFR
143 }

```

\UScaptionsafrikaans Afrikaans captions

```
144 \newcommand{\UScaptionsafrikaans}{%
145   \def\declarationname{Verklaring}%
146   \def\abstractname{Uittreksel}%
147 }
```

\USextrasenglish English code:

```
148 \newcommand{\USextrasenglish}{%
149   \let\USName           =\USNameENG
150   \let\MasterDescript   =\MastersDescriptENG
151   \let\PhDDescript      =\PhDDescriptENG
152   \let\PhDFinalDescript=\PhDFinalDescriptENG
153   \let\StudyLeaderType  =\StudyLeaderENG
154   \let\StudyLeadersType=\StudyLeadersENG
155   \let\PromotorType     =\PromotorENG
156   \let\PromotorsType    =\PromotorsENG
157   \let\TypeReport       =\TypeReportENG
158   \let\TypeAssignment   =\TypeAssignmentENG
159   \let\TypeThesis       =\TypeThesisENG
160   \let\TypePhD          =\TypePhDENG
161   \let\MonthName        =\MonthENG
162   \let\CopyrightHolder  =\CopyrightHolderENG
163   \let\CopyrightTxt     =\CopyrightTxtENG
164   \let\CopyrightAnot    =\CopyrightAnotENG
165   \let\ThesisDeclare    =\ThesisDeclareENG
166   \let\Signat           =\SignatENG
167   \let\Datetxt          =\DateENG
168 }
```

\UScaptionsenglish English captions

```
169 \newcommand{\UScaptionsenglish}{%
170   \def\declarationname{Declaration}%
171   \def\abstractname{Abstract}%
172 }
```

Set English as default if no language option is selected.

```
173 \USextrasenglish
174 \UScaptionsenglish
```

Set language options

\US@addto A redefinition of the babel \addto command (taken from varioref).

```
175 \def\US@addto#1#2{%
176   #2%
177   \@temptokena{#2}%
178   \ifx#1\relax
179     \let#1\@empty
180   \fi
181   \ifx#1\undefined
182     \edef#1{\the\@temptokena}%
183   \else
184     \toks@\expandafter{#1}%
185     \edef#1{\the\toks@\the\@temptokena}%

```

```

186 \fi
187 \@temptokena{}\toks@\@temptokena}

```

\US@addlangextras Add the language definitions to \extras⟨*lang*⟩ and \captions⟨*lang*⟩ at the beginning of the document after babel.

```

188 \newcommand\US@addlangextras[2]{%
189   \AtBeginDocument{%
190     \expandafter\US@addto\csname extras#1\endcsname #2}}
191 \newcommand\US@addlangcaptions[2]{%
192   \AtBeginDocument{%
193     \expandafter\US@addto\csname captions#1\endcsname #2}}

```

Set all the different English language options.

```

194 \DeclareOption{english}{%
195   \edef\US@ENGstr{\string english}%
196   \US@addlangextras{english}{\USextrasenglish}%
197   \US@addlangcaptions{english}{\UScaptionsenglish}}
198 \DeclareOption{UKenglish}{%
199   \edef\US@ENGstr{\string UKenglish}%
200   \US@addlangextras{UKenglish}{\USextrasenglish}%
201   \US@addlangcaptions{UKenglish}{\UScaptionsenglish}}
202 \DeclareOption{USenglish}{%
203   \edef\US@ENGstr{\string USenglish}%
204   \US@addlangextras{USenglish}{\USextrasenglish}%
205   \US@addlangcaptions{USenglish}{\UScaptionsenglish}}
206 \DeclareOption{british}{%
207   \edef\US@ENGstr{\string british}%
208   \US@addlangextras{british}{\USextrasenglish}%
209   \US@addlangcaptions{british}{\UScaptionsenglish}}

```

Set Afrikaans language option.

```

210 \DeclareOption{afrikaans}{%
211   \US@addlangextras{afrikaans}{\USextrasafrikaans}%
212   \US@addlangcaptions{afrikaans}{\UScaptionsafrikaans}}

```

4.2.2 Thesis type options

\if@Report Flag for report option.

```

213 \newif\if@Report
214 \@Reporttrue

```

\if@Masters Flag for master-a and master-t options.

```

215 \newif\if@Masters
216 \@Mastersfalse

```

\if@PhD Flag for PhD and PhDfinal options.

```

217 \newif\if@PhD
218 \@PhDfalse

```

\if@Final Flag for PhDfinal option.

```

219 \newif\if@Final
220 \@Finalfalse

```



```

\ThesisType   Global headings that are set according to the thesis type options.
\PromotorText 221 \newcommand{\ThesisType}{}
\PromotersText 222 \newcommand{\PromotorText}{}
                223 \newcommand{\PromotersText}{}

                report: For normal reports an assignments.
224 \DeclareOption{report}{%
225   \renewcommand{\ThesisType}{\TypeReport}%
226   \renewcommand{\PromotorText}{\StudyLeaderType}
227   \renewcommand{\PromotersText}{\StudyLeadersType}
228   \@Reporttrue
229   \@Mastersfalse
230   \@PhDfalse}

                masters-a: Masters with and assignment.
231 \DeclareOption{masters-a}{%
232   \renewcommand{\ThesisType}{\TypeAssignment}%
233   \renewcommand{\PromotorText}{\StudyLeaderType}
234   \renewcommand{\PromotersText}{\StudyLeadersType}
235   \@Reportfalse
236   \@Masterstrue
237   \@PhDfalse}

                masters-t: Masters with a thesis.
238 \DeclareOption{masters-t}{%
239   \renewcommand{\ThesisType}{\TypeThesis}%
240   \renewcommand{\PromotorText}{\StudyLeaderType}%
241   \renewcommand{\PromotersText}{\StudyLeadersType}%
242   \@Reportfalse
243   \@Masterstrue
244   \@PhDfalse}

                PhD: PhD dissertation handed in for examination.
245 \DeclareOption{PhD}{%
246   \renewcommand{\ThesisType}{\TypePhD}%
247   \renewcommand{\PromotorText}{\PromotorType}%
248   \renewcommand{\PromotersText}{\PromotersType}%
249   \@Reportfalse
250   \@Mastersfalse
251   \@PhDtrue
252   \@Finalfalse}

                PhDfinal: Excepted PhD dissertation handed in for publication.
253 \DeclareOption{PhDfinal}{%
254   \renewcommand{\ThesisType}{\TypePhD}%
255   \renewcommand{\PromotorText}{\PromotorType}%
256   \renewcommand{\PromotersText}{\PromotersType}%
257   \@Reportfalse
258   \@Mastersfalse
259   \@PhDtrue
260   \@Finaltrue}

```

4.2.3 Page layout options

Intercept 2-column requests.

```

261 <*cls>
262 \DeclareOption{twocolumn}{\}
263 </cls>

\if@ABlock  Flags for a5block and goldenblock options.
\if@GBlock  264 \newif\if@ABlock
265 \newif\if@GBlock
266 \@ABlockfalse
267 \@GBlockfalse

a5block: An A5 type block area.
268 \DeclareOption{a5block}{\%
269 <cls> \PassOptionsToClass{a4paper}{\US@basetype}%
270 \@ABlocktrue
271 \@GBlockfalse}

goldenblock: A golden section type block area.
272 \DeclareOption{goldenblock}{\%
273 <cls> \PassOptionsToClass{a4paper}{\US@basetype}%
274 \@GBlocktrue
275 \@ABlockfalse}

stdblock: Standard LATEX type block area.
276 \DeclareOption{stdblock}{\%
277 \@GBlockfalse
278 \@ABlockfalse}

```

4.2.4 Process package options

```

279 <cls> \DeclareOption*{\PassOptionsToClass{\CurrentOption}{\US@basetype}}
280 \ExecuteOptions{report}
281 \ProcessOptions*\relax
282 <cls> \LoadClass[oneside,openany]{\US@basetype}

```

4.3 External packages

```

283 \RequirePackage{calc}

\phantomsection  A command needed, if the hyperref package is used, for putting before certain
\addcontentsline commands.

284 \providecommand{\phantomsection}{}

\ifpdf  We need the ifpdf package, but to reduce dependencies we provide the code here
to check if a document is being processed by LATEX or pdfLATEX. It is all ready
declared by memoir.

285 <*cls>
286 \newif\ifpdf
287 \ifx\pdfoutput\undefined
288 \else
289 \ifx\pdfoutput\relax
290 \else
291 \ifcase\pdfoutput
292 \else
293 \pdftrue
294 \fi

```

```

295 \fi
296 \fi
297 \</cls>

```

We need the `graphicx` package and it must be loaded by the user in the document preamble.

```

298 \AtBeginDocument{%
299   \ifpackageloaded{graphicx}{}{%
300   \<cls>       \ClassError{usthesis}{You must load the graphicx package}{}%
301   \<mem>       \PackageError{usthesis}{You must load the graphicx package}{}%
302   }%
303 }

```

4.4 Temporaries

```

304 \newlength{\US@tdima}
305 \newlength{\US@tdimb}
306 \newsavebox{\US@tboxa}
307 \newcounter{US@tcnta}
308 \newcounter{US@tcntb}

```

4.5 Page layout

`\FixVertParams` Reset all the vertical parameters for a page layout. Note that memoir has its own setup.

```

309 \<cls>
310 \newcommand\FixVertParams[1]{%
311   \normalsize
312   \setlength\US@tdima{\textheight-\topskip}%
313   \setcounter{US@tcnta}{\US@tdima}
314   \setcounter{US@tcntb}{\baselineskip}
315   \setcounter{US@tcnta}{\value{US@tcnta}/\value{US@tcntb}}
316   \setlength\textheight{\baselineskip*\value{US@tcnta}+\topskip}%
317   \setlength\US@tdima{\paperheight-\textheight}%
318   \setlength\topmargin{#1\US@tdima-\headheight-\headsep-1in}%
319   \@settopoint\topmargin}
320 \</cls>

```

`\FixHorizParams` Reset all the horizontal parameters for a page layout. Note that memoir has its own setup.

```

321 \<cls>
322 \newcommand\FixHorizParams[1]{%
323   \@settopoint\textwidth
324   \setlength\US@tdima{\paperwidth-\textwidth}%
325   \if@twoside
326     \setlength\oddsidemargin{#1\US@tdima-1in}%
327   \else
328     \setlength\oddsidemargin{.5\US@tdima-1in}%
329   \fi
330   \@settopoint\oddsidemargin
331   \setlength\evensidemargin{\US@tdima-\oddsidemargin-2in}%
332   \@settopoint\evensidemargin
333   \setlength\marginparwidth{\evensidemargin+1in-\marginparsep-1cm}%
334   \@settopoint\marginparwidth}

```

335 </cls>

4.5.1 A5 type block area

```

336 <*cls>
337 \if@ABlock
338   \setlength\paperheight {297.3mm}
339   \setlength\paperwidth  {210.2mm} % A4 paper
340   \setlength\textwidth   {.5\paperheight}
341   \setlength\textheight  {\paperwidth}
342   \setlength\marginparsep {7\p@}
343   \setlength\marginparpush{7\p@}
344   \FixVertParams{0.375}
345   %\FixHorizParams{0.375}
346   \FixHorizParams{0.5}% Changed in v3.0
347   \ifpdf
348     \setlength\pdfpagewidth{\paperwidth}
349     \setlength\pdfpageheight{\paperheight}
350   \fi
351 \fi
352 </cls>
353 <*mem>
354 \if@ABlock
355   \setstocksize{297.3mm}{210.2mm}% A4 paper
356   \settrimmedsize{\stockheight}{\stockwidth}{*}
357   \settypeblocksize{\paperwidth}
358     {.5\paperheight}{*}% A5 text block
359   \setulmargins{*}{*}{1.666667} % 5:3
360   \if@twoside
361     %\setlrmargins{*}{*}{1.666667} % 5:3
362     \setlrmargins{*}{*}{1.000000} % 1:1 Changed in v3.0
363   \else
364     \setlrmargins{*}{*}{1.000000} % 1:1
365   \fi
366   \checkandfixthelayout
367   \setlength{\headwidth}{\textwidth}
368 \fi
369 </mem>

```

4.5.2 Golden section type block area

```

370 <*cls>
371 \if@GBlock
372   \setlength\paperheight {297.3mm}
373   \setlength\paperwidth  {210.2mm} % A4 paper
374   \setlength\textheight  {0.747547\paperheight}
375   \setlength\textwidth   {0.666667\paperwidth}
376   \setlength\marginparsep {7\p@}
377   \setlength\marginparpush{7\p@}
378   \FixVertParams{0.375}
379   %\FixHorizParams{0.375}
380   \FixHorizParams{0.5}% Changed in v3.0
381   \ifpdf
382     \setlength\pdfpagewidth{\paperwidth}
383     \setlength\pdfpageheight{\paperheight}

```

```

384 \fi
385 \fi
386 \</cls>
387 \*mem>
388 \if@GBlock
389 \setstocksize{297.3mm}{210.2mm}
390 \settrimmedsize{\stockheight}{\stockwidth}{*}
391 \settypeblocksize{0.747547\paperheight}
392 {0.666667\paperwidth}{*}% Golden ratio block
393 \setulmargins{*}{*}{1.666667} % 5:3
394 \if@twoside
395 %\setlrmargins{*}{*}{1.666667} % 5:3
396 \setlrmargins{*}{*}{1.000000} % 1:1 Changed in v3.0
397 \else
398 \setlrmargins{*}{*}{1.000000} % 1:1
399 \fi
400 \checkandfixthelayout
401 \setlength{\headwidth}{\textwidth}
402 \fi
403 \</mem>

```

4.6 Utility commands

\US@ifempt Test for a empty argument (Wilson, Arseneau in ifmtarg)

```

404 \begingroup
405 \catcode'\Q=3
406 \long\gdef\US@ifempt#1{\US@xifempt#1QQ\@secondoftwo\@firstoftwo\@nil}
407 \long\gdef\US@xifempt#1#2Q#3#4#5\@nil{#4}
408 \endgroup

```

US@adjustwidth Adjust the width of a paragraph. It differs from the memoir environment **AdjustWidth** in that all top and bottom spaces are removed.

```

409 \newenvironment{US@adjustwidth}[2]{%
410 \begin{list}{*}{%
411 \setlength{\topsep}{0pt}%
412 \setlength{\partopsep}{0pt}%
413 \setlength{\leftmargin}{#1}%
414 \setlength{\rightmargin}{#2}%
415 \setlength{\listparindent}{\parindent}%
416 \setlength{\itemindent}{\parindent}%
417 \setlength{\parsep}{\parskip}%
418 }%
419 \item[]{\end{list}}

```

SetMargins Adjust the margins of a paragraph. The parameter **#1** and **#2** are the left and right margins of the paragraph.

```

420 \newenvironment{SetMargins}[2]{%
421 {\setlength{\US@tdima}{-1in-\hoffset-\oddsidemargin}%
422 \setlength{\US@tdimb}{-\US@tdima}%
423 \addtolength{\US@tdima}{#1}%
424 \addtolength{\US@tdimb}{-\paperwidth+\textwidth+#2}%
425 \begin{US@adjustwidth}{\US@tdima}{\US@tdimb}%
426 }%
427 {\end{US@adjustwidth}}

```

4.7 Front pages

4.7.1 Title page

`US@titlepage` Make a single column empty page with predefined margins

```

\begin{US@titlepage}{\top}{\bottom}{\left}{\right}}
  \langle title page \rangle
\end{US@titlepage}

428 \newenvironment{US@titlepage}[4]
429   {\cleardoublepage
430    \if@twocolumn
431      \@restonecoltrue\onecolumn
432    \else
433      \@restonecolfalse\newpage
434    \fi
435    \thispagestyle{empty}%
436    \setcounter{page}\@ne

    Set the top margin by moving the starting point up.

437    \setlength{\US@tdima}{1in+\voffset+\topmargin+\headheight+\headsep+\topskip}%
438    \setlength{\US@tdimb}{\#1 -\US@tdima}%
439    \vspace*{\US@tdimb}%

    Set the bottom margin by enlarging the page

440    \addtolength{\US@tdima}{\textheight-\paperheight-\topskip}%
441    \addtolength{\US@tdima}{\#2}%
442    \enlargethispage{-\US@tdima}%

    Set the left and right margins by putting the contents in a list environ-
    ment with widened margins.

443    \setlength{\US@tdima}{-1in-\hoffset-\oddsidemargin}%
444    \setlength{\US@tdimb}{-\US@tdima}%
445    \addtolength{\US@tdima}{\#3}%
446    \addtolength{\US@tdimb}{-\paperwidth+\textwidth+\#4}%
447    \begin{US@adjustwidth}{\US@tdima}{\US@tdimb}%
448  }%
449  {\end{US@adjustwidth}}%
450  \if@restonecol\twocolumn \else \newpage \fi
451  \if@twoside\else
452    \setcounter{page}\@ne
453  \fi}

    Undefine the standard title page.
454 \let\maketitle\relax

```

The title page

`\TitlePage` The `\TitlePage` command set the full front page for the US theses and reports. All margins, spacing and font sizes must be set inside this command.

```

455 \newcommand{\TitlePage}{%
456   \begin{group}
457     \let\footnote\relax
458     \begin{US@titlepage}{2cm}{2.5cm}{2.5cm}{2.5cm}%

```

```

459      \centering
460      \if@Report
461        \includegraphics[width=100mm]{USlogo-top}\par
462      \else
463        %\includegraphics[width=88mm]{UScrest-top}\par
464      \fi
465      \vfill
466      {\LARGE \@title \par}
467      \vspace{2em}
468      \if@Authorpresent
469        {\large \AorE{deur}{by}\par}
470        \vspace{2em}
471        {\Large
472          \lineskip .75em\relax%
473          \begin{tabular}[t]{c}%
474            \US@authorlong
475          \end{tabular}\par}%
476        \vfill
477      \fi
478      {\large\slshape
479        \begin{US@adjustwidth}{1.5cm}{1.5cm}
480          \centering\US@ThesisDescript
481        \end{US@adjustwidth}\par}
482      \vfill
483      {\US@adress\par}
484      \vfill
485      {\normalsize \US@promotorset \par}
486      \vfill
487      {\large \US@date\par}%
488      \end{US@titlepage}%
489    \endgroup
490    \global\let\TitlePage\relax
491    \setcounter{footnote}{0}%
492    \global\let\thanks\relax
493    \global\let\@thanks\@empty
494    % \global\let\and\relax
495  }

```

Author block

```

496 \newif\if@Authorpresent
497 \@Authorpresentfalse
498 \renewcommand\author[2]{%
499   \@Authorpresenttrue%
500   \gdef\US@author{#1}%
501   \gdef\US@authorlong{#2}}
502 \newcommand\US@author{%
503 <cls> \ClassWarning{usthesis}{No author supplied}%
504 <mem> \PackageWarning{usthesis}{No author supplied}%
505 }
506 \newcommand\US@authorlong{%
507 <cls> \ClassWarning{usthesis}{No author supplied}%
508 <mem> \PackageWarning{usthesis}{No author supplied}%

```

509 }

Thesis or report description

510 \newcommand{\US@ThesisDescript}{}

\ThesisDescript

511 \newcommand\ThesisDescript[1]{%

512 \long\gdef\US@ThesisDescript{#1}}

513 \let\ReportDescript=\ThesisDescript

514 \if@Masters

515 \ThesisDescript{\MasterDescript}

516 \fi

517 \if@PhD

518 \if@Final

519 \ThesisDescript{\PhDFinalDescript}

520 \else

521 \ThesisDescript{\PhDDescript}%

522 \fi

523 \fi

Degree or subject

See beginning of class for \US@degree and \US@degreelong.

524 \newcommand\degree[2]{%

525 \gdef\US@degree{#1}%

526 \gdef\US@degreelong{#2}}

527 \let\subject=\degree

Address

528 \newcommand\address[1]{\gdef\US@address{#1}}

529 \newcommand\US@address{%

530 \cls) \ClassWarning{usthesis}{No institutional address supplied}}

531 \mem) \PackageWarning{usthesis}{No institutional address supplied}}

Promotor or study leader

532 \newif\ifUS@multprm\US@multprmfalse

533 \newif\ifUS@prmstacked\US@prmstackedfalse

534 \newcommand\US@promotor{}

535 \newcommand*\US@prmalign{1}

536 \newcommand*\US@prmnewline{~}

\promotor

537 \newcommand{\promotor}{%

538 \@ifstar{\US@prmstackedtrue\@promotor}%

539 {\US@prmstackedfalse\@promotor}}

540 \newcommand{\@promotor}[2][1]{%

541 \renewcommand*\US@prmalign{#1}%

542 \renewcommand\US@promotor{#2}}


```

543 \newcommand{\US@promotorset}{%
544   \edef\US@beginTab{%
545     \noexpand\begin{tabular}[t]{@{} \US@prmalign @{}}}%
546   \edef\US@endTab{%
547     \noexpand\end{tabular}}%
548   \sbox{\US@tboxa}{%
549     \let\and\US@prm@and%
550     \US@beginTab%
551     \US@promotor%
552     \US@endTab}%
553   \ifUS@prmstacked
554     \makebox[\wd\US@tboxa][\US@prmalign]{%
555       \ifUS@multprm\PromotorsText\else\PromotorText\fi}\[1ex]%
556     \usebox{\US@tboxa}%
557   \else
558     \ifUS@multprm\PromotorsText\else\PromotorText\fi
559     \US@prmnewline%
560     \usebox{\US@tboxa}%
561   \fi
562 }

563 \newcommand*{\US@prm@and}[1][2ex]{%
564   \gdef\US@prmnewline{\[2ex]}%
565   \global\US@multprmtrue%
566   \ifUS@prmstacked
567     \[1ex]%
568   \else
569     \US@endTab
570     \hskip 1em \@plus.17fil\relax
571     \US@beginTab
572   \fi
573   \ignorespaces}

574 \let\studyleader\promotor
575 \let\supervisor\promotor

```

Date

```

576 \newcount\US@month
577 \newcount\US@year

578 \US@month=0
579 \US@year=\number\year
580 \def\US@date{\MonthName{\US@month}\ \number\US@year}

581 \newcommand{\setdate}[2]{%
582   \US@ifempty{#1}{\US@month=0}{\US@month=#1}%
583   \US@year=#2
584   \gdef\US@date{\MonthName{\US@month}\ \number\US@year}}

```

4.7.2 Copyright page

From 2007 the copyright declaration must be at the bottom of the declaration page.

\CopyrightPage

```

585 \newcommand\CopyrightPage[1][\CopyrightHolder]{%

```

```

586   %\clearpage
587   %\thispagestyle{empty}
588   %\mbox{}\par\vfill
589   %\begin{center}
590   %   \CopyrightTxt\ \copyright\ \number\US@year\ #1\\
591   %   \CopyrightAnot
592   %\end{center}
593   %\vfill\mbox{}\par
594   %\clearpage
595   }

```

`\SetCopyrightHolder` Macro to change the default copyright holder.

```

596 \newcommand\SetCopyrightHolder[1]{%
597   \renewcommand\CopyrightHolder{#1}}

```

`\SetCopyrightOff` Switch copyright output off.

```

598 \newif\ifUS@Copyright
599 \US@Copyrighttrue
600 \newcommand\SetCopyrightOff{%
601   \US@Copyrightfalse}

```

4.7.3 Declaration page

`\DeclarationPage` Set up the declaration page. The `\ThesisDeclare[<declaration>]` command has an optional argument to set a different declaration.

```

602 \newcommand{\DeclarationPage}[1][\ThesisDeclare]{%
603   \if@twocolumn
604     \@restonecoltrue\onecolumn
605   \else
606     \@restonecolfalse
607   \fi
608   \par
609   \thispagestyle{plain}%
610   \chapter*{\declarationname}%
611   \declaremark
612   \phantomsection
613   \addcontentsline{toc}{chapter}{\declarationname}%
614   #1\par
615   \vspace{3cm}
616   \noindent
617   \begin{minipage}{.5\textwidth}
618     \Signat:~\dotfill\mbox{}\\\
619     \phantom{\Signat:}~%
620     \hfill\makebox[0pt][c]{\US@author}\hfill\mbox{}\\\[1cm]
621     \Datetxt:~\dotfill\mbox{}
622   \end{minipage}
623   \ifUS@Copyright
624     \mbox{}\par
625     \vfill
626     \vfill
627     \noindent\CopyrightTxt\ \copyright\ \number\US@year\ \CopyrightHolder\\
628     \noindent\CopyrightAnot
629     \vfill
630     \mbox{}\par

```

```

631 \fi
632 \if@restonecol\twocolumn\fi}

```

4.7.4 Abstract page

abstract Provides the environment

```

\begin{abstract}[\lang]
  \langle abstract text \rangle
\end{abstract}

```

to typeset the abstract. A different language can be selected with the optional argument to the environment.

```

633 \langle cls \rangle \newenvironment{abstract}[1][\language]{%
634 \langle mem \rangle \renewenvironment{abstract}[1][\language]{%
635   {\edef\@tempa{\expandafter\string #1}%
636    \ifx\@tempa\language\relax\else
637     \edef\@tempa{\noexpand\selectlanguage{#1}}\@tempa%
638   \fi
639   \if@twocolumn
640     \@restonecoltrue\onecolumn
641   \else
642     \@restonecolfalse
643   \fi
644   \par
645   \chapter*{\abstractname}%
646   \abstractmark
647   \phantomsection
648   \addcontentsline{toc}{chapter}{\abstractname}%
649   \if@Report\else
650     \begin{center}
651       {\large\bfseries \@title \par}
652       \medskip
653       {\lineskip .75em\relax%
654        \begin{tabular}[t]{@{}c@{}}%
655          \US@author
656        \end{tabular}\par}
657       \smallskip
658       {\small\itshape\US@adress\par}
659       \smallskip
660       {\ThesisType: \US@degree\par}
661       \smallskip
662       {\US@date\par}
663     \end{center}
664   \fi
665   \if@restonecol\twocolumn\fi%
666   }{}

```

4.7.5 Table of contents

```

667 \langle *cls \rangle
668 \renewcommand\tableofcontents{%
669   \if@twocolumn
670     \@restonecoltrue\onecolumn

```

```

671 \else
672   \@restonecolfalse
673 \fi
674 \chapter*{\contentsname}%
675 \tocmark
676 \phantomsection
677 \addcontentsline{toc}{chapter}{\contentsname}%
678 \@starttoc{toc}%
679 \if@restonecol\twocolumn\fi}
680 </cls>

```

4.7.6 List of figures

```

681 <*cls>
682 \renewcommand\listoffigures{%
683   \if@twocolumn
684     \@restonecoltrue\onecolumn
685   \else
686     \@restonecolfalse
687   \fi
688   \chapter*{\listfigurename}%
689   \lofmark
690   \phantomsection
691   \addcontentsline{toc}{chapter}{\listfigurename}%
692   \@starttoc{lof}%
693   \if@restonecol\twocolumn\fi
694 }
695 \renewcommand*\l@figure{\@dottedtocline{1}{0em}{3em}}
696 </cls>

```

4.7.7 List of tables

```

697 <*cls>
698 \renewcommand\listoftables{%
699   \if@twocolumn
700     \@restonecoltrue\onecolumn
701   \else
702     \@restonecolfalse
703   \fi
704   \chapter*{\listtablename}%
705   \lotmark
706   \phantomsection
707   \addcontentsline{toc}{chapter}{\listtablename}%
708   \@starttoc{lot}%
709   \if@restonecol\twocolumn\fi}
710 \let\l@table\l@figure
711 </cls>

```

4.8 Back matter

4.8.1 Bibliography

`\bibsection` natbib uses the `\bibsection` command. We change the `thebibliography` to use it also.

```

712 <*cls>
713 \providecommand\bibsection{}%

```

```

714 \AtBeginDocument{%
715   \renewcommand{\bibsection}{%
716     \chapter*{\bibname}%
717     \bibmark
718     \phantomsection
719     \addcontentsline{toc}{chapter}{\bibname}}%
720   }
721 \</cls>

```

thebibliography The environment is a mixture of code from book.cls and natbib

```

722 \<cls>
723 \renewenvironment{thebibliography}[1]{%
724   \bibsection
725   \parindent \z@
726   \bibpreamble
727   \bibfont
728   \list{\@biblabel{\@arabic\c@enumiv}}%
729     {\settowidth\labelwidth{\@biblabel{#1}}%
730     \leftmargin\labelwidth
731     \advance\leftmargin\labelsep
732     \@openbib@code
733     \usecounter{enumiv}%
734     \let\p@enumiv\@empty
735     \renewcommand\theenumiv{\@arabic\c@enumiv}}%
736   \sloppy
737   \clubpenalty4000
738   \@clubpenalty \clubpenalty
739   \widowpenalty4000%
740   \sfcode\.\@m}
741   {\def\@noitemerr%
742     {\@latex@warning{Empty thebibliography environment}}}%
743   \endlist
744   \vskip-\lastskip}
745 \</cls>

```

\bibfont Command to change font sizes.

\bibpreamble The user can add stuff before the bibliography.

```

746 \<cls>
747 \let\bibfont\relax
748 \let\bibpreamble\relax
749 \</cls>

```

\setbiblabel A user command to change the bib label format .

```

750 \<cls>
751 \newcommand*\setbiblabel[1]{%
752   \renewcommand*\@biblabel[1]{#1}}
753 \setbiblabel{[1]\hfill}
754 \</cls>

```

4.8.2 Index

theindex

```

755 \<cls>

```

```

756 \renewenvironment{theindex}
757   {\if@twocolumn
758     \@restonecolfalse
759   \else
760     \@restonecoltrue
761   \fi
762   \columnseprule \z@
763   \columnsep 35\p@
764   \twocolumn[\@makeschapterhead{\indexname}]}%
765   \indexmark
766   \phantomsection
767   \addcontentsline{toc}{chapter}{\indexname}
768   \thispagestyle{plain}
769   \parindent\z@
770   \parskip\z@ \@plus .3\p@\relax
771   \let\item\@idxitem}
772 { \if@restonecol
773   \onecolumn
774   \else
775     \clearpage
776   \fi}
777 </cls>

```

4.9 Page markup

4.9.1 Headers and footers

`\US@headfnt` Font for running headers.

`\US@numfnt` Font for running header numbers.

```

778 \newcommand*{\US@headfnt}[1]{\s@shape\small#1}
779 \newcommand*{\US@numfnt}[1]{\normalsize\bfseries#1}

```

Define the `usthesis` page style The setup for headers and footers differs between the normal book class and memoir, therefor we split them up.

Headers for normal book class

```

780 <*cls>
781 \if@twoside
782   \def\ps@usthesis{%
783     \def\@evenhead{\US@numfnt{\thepage}\hfil\US@headfnt{\leftmark}}%
784     \def\@oddhead{\US@headfnt{\rightmark}\hfil\US@numfnt{\thepage}}%
785     \let\@oddfoot\@empty
786     \let\@evenfoot\@empty
787     \let\@mkboth\markboth
788     \def\chaptermark##1{%
789       \markboth{\MakeUppercase{
790         \ifnum \c@secnumdepth >\m@ne
791           \if@mainmatter
792             \@chapapp\ thechapter. \ %
793           \fi
794         \fi
795       }##1}}{}%
796     \def\sectionmark##1{%

```

```

797     \markright{\MakeUppercase{%
798         \ifnum \c@secnumdepth > \z@
799             \thesection. \ %
800         \fi
801     ##1}}}%
802     \def\declaremark{\markboth{\MakeUppercase{\declarationname}}{}}%
803     \def\abstractmark{\markboth{\MakeUppercase{\abstractname}}{}}%
804     \def\tocmark{\markboth{\MakeUppercase{\contentsname}}{}}%
805     \def\lofmark{\markboth{\MakeUppercase{\listfigurename}}{}}%
806     \def\lotmark{\markboth{\MakeUppercase{\listtablename}}{}}%
807     \def\bibmark{\markboth{\MakeUppercase{\bibname}}{}}%
808     \def\indexmark{\markboth{\MakeUppercase{\indexname}}{}}%
809 }
810 \else
811     \def\ps@usthesis{%
812         \def\@oddhead{\US@headfnt{\rightmark}\hfil\US@numfnt{\thepage}}%
813         \let\@oddfoot\@empty
814         \let\@mkboth\markboth
815         \def\chaptermark##1{%
816             \markright{\MakeUppercase{%
817                 \ifnum \c@secnumdepth > \m@ne
818                     \if@mainmatter
819                         \@chapapp\ thechapter. \ %
820                     \fi
821                 \fi
822             ##1}}}%
823         \def\declaremark{\markright{\MakeUppercase{\declarationname}}}%
824         \def\abstractmark{\markright{\MakeUppercase{\abstractname}}}%
825         \def\tocmark{\markright{\MakeUppercase{\contentsname}}}%
826         \def\lofmark{\markright{\MakeUppercase{\listfigurename}}}%
827         \def\lotmark{\markright{\MakeUppercase{\listtablename}}}%
828         \def\bibmark{\markright{\MakeUppercase{\bibname}}}%
829         \def\indexmark{\markright{\MakeUppercase{\indexname}}}%
830     }
831 \fi

Redefine the plain page style.
832 \def\ps@plain{%
833     \let\@mkboth\@gobbletwo
834     \let\@oddhead\@empty
835     \let\@evenhead\@empty
836     \def\@oddfoot{\reset@font\hfil\US@numfnt{\thepage}\hfil}%
837     \let\@evenfoot\@oddfoot
838 }
839 \</cls>

```

Headers for use with memoir class

```

840 \<mem>
841 \makepagestyle{usthesis}
842 \setlength{\headwidth}{\textwidth}
843 \makerunningwidth{usthesis}{\headwidth}
844 \makeheadposition{usthesis}{flushright}{flushleft}{flushright}{flushleft}
845 \if@twoside
846     \makepsmarks{usthesis}{%

```

```

847 \let\mkboth\markboth
848 \def\chaptermark##1{%
849 \markboth{\MakeUppercase{%
850 \ifnum \c@secnumdepth >\m@ne
851 \if@mainmatter
852 \@chapapp\ thechapter. \ %
853 \fi
854 \fi
855 ##1}}}%
856 \def\sectionmark##1{%
857 \markright{\MakeUppercase{%
858 \ifnum \c@secnumdepth >\z@
859 \thesection. \ %
860 \fi
861 ##1}}}%
862 \def\declaremark{\markboth{\MakeUppercase{\declarationname}}}%
863 \def\abstractmark{\markboth{\MakeUppercase{\abstractname}}}%
864 \def\tocmark{\markboth{\MakeUppercase{\contentsname}}}%
865 \def\lofmark{\markboth{\MakeUppercase{\listfigurename}}}%
866 \def\lotmark{\markboth{\MakeUppercase{\listtablename}}}%
867 \def\bibmark{\markboth{\MakeUppercase{\bibname}}}%
868 \def\indexmark{\markboth{\MakeUppercase{\indexname}}}%
869 }
870 \makeevenhead{usthesis}{\US@numfnt{\thepage}}{\US@headfnt{\leftmark}}
871 \makeoddhead{usthesis}{\US@headfnt{\rightmark}}{\US@numfnt{\thepage}}
872 \else
873 \makepsmarks{usthesis}{%
874 \let\mkboth\markboth
875 \def\chaptermark##1{%
876 \markright{\MakeUppercase{%
877 \ifnum \c@secnumdepth >\m@ne
878 \if@mainmatter
879 \@chapapp\ thechapter. \ %
880 \fi
881 \fi
882 ##1}}}%
883 \def\declaremark{\markright{\MakeUppercase{\declarationname}}}%
884 \def\abstractmark{\markright{\MakeUppercase{\abstractname}}}%
885 \def\tocmark{\markright{\MakeUppercase{\contentsname}}}%
886 \def\lofmark{\markright{\MakeUppercase{\listfigurename}}}%
887 \def\lotmark{\markright{\MakeUppercase{\listtablename}}}%
888 \def\bibmark{\markright{\MakeUppercase{\bibname}}}%
889 \def\indexmark{\markright{\MakeUppercase{\indexname}}}%
890 }
891 \makeoddhead{usthesis}{\US@headfnt{\rightmark}}{\US@numfnt{\thepage}}
892 \fi

Change the plain page style
893 \setlength{\headwidth}{\textwidth}
894 \makerunningwidth{plain}{\headwidth}
895 \makeevenfoot{plain}{\US@numfnt{\thepage}}
896 \makeoddfoot{plain}{\US@numfnt{\thepage}}
897 \mem)

```

The default page style.

898 \pagestyle{usthesis}

4.9.2 Chapter and section headings

899 \newcommand{\US@headfamily}{\normalfont\rmfamily}

900 \<cls>

901 \def\section{%

902 \@startsection{section}{1}%

903 {\z@}%

904 {-3.5ex plus -1ex minus -.2ex}%

905 {2.3ex plus .2ex}%

906 {\US@headfamily\Large\bfseries\raggedright}}

907 \</cls>

908 \<mem>

909 \setsecheadstyle{\US@headfamily\Large\bfseries\raggedright}

910 \</mem>

911 \<cls>

912 \def\subsection{%

913 \@startsection{subsection}{2}%

914 {\z@}%

915 {-3.25ex plus -1ex minus -.2ex}%

916 {1.5ex plus .2ex}%

917 {\US@headfamily\large\bfseries\raggedright}}%

918 \</cls>

919 \<mem>

920 \setsubsecheadstyle{\US@headfamily\large\bfseries\raggedright}

921 \</mem>

922 \<cls>

923 \def\subsubsection{%

924 \@startsection{subsubsection}{3}%

925 {\z@}%

926 {-3.25ex plus -1ex minus -.2ex}%

927 {1.5ex plus .2ex}%

928 {\US@headfamily\normalsize\bfseries\raggedright}}

929 \</cls>

930 \<mem>

931 \setsubsubsecheadstyle{\US@headfamily\normalsize\bfseries\raggedright}

932 \</mem>

933 \<cls>

934 \def\paragraph{%

935 \@startsection{paragraph}{4}%

936 {\z@}%

937 {3.25ex plus 1ex minus .2ex}%

938 {-1em}%

939 {\US@headfamily\normalsize\bfseries}}

940 \</cls>

941 \<mem>

942 \setparaheadstyle{\US@headfamily\normalsize\bfseries}

943 \</mem>

944 \<cls>

945 \def\subparagraph{%

946 \@startsection{subparagraph}{5}%

947 {\parindent}%

```

948          {3.25ex plus 1ex minus .2ex}%
949          {-1em}%
950          {\US@headfamily\normalsize\bfseries}}
951 \</cls>
952 *mem>
953 \setsubparaheadstyle{\US@headfamily\normalsize\bfseries}
954 \</mem>

```

4.9.3 Floats and float pages

```

955 \setcounter{topnumber}{3}
956 \setcounter{bottomnumber}{2}
957 \setcounter{totalnumber}{4}
958 \setcounter{dbltopnumber}{3}

959 \renewcommand{\topfraction}{.85}
960 \renewcommand{\bottomfraction}{.7}
961 \renewcommand{\textfraction}{.1}
962 \renewcommand{\floatpagefraction}{.7}
963 \renewcommand{\dbltopfraction}{.85}
964 \renewcommand{\dblfloatpagefraction}{.7}

965 \setlength{\floatsep}{15pt plus 12pt}
966 \setlength{\textfloatsep}{\floatsep}
967 \setlength{\intextsep}{\floatsep}
968 \setlength{\dblfloatsep}{15pt plus 12pt}
969 \setlength{\dbltextfloatsep}{15pt plus 12pt}

970 \setlength{\@fptop}{0pt plus 1fil}
971 \setlength{\@fpbot}{0pt plus 1fil}
972 \setlength{\@fpsep}{8pt plus 1fil}
973 \setlength{\@dblftop}{0pt plus 1fil}
974 \setlength{\@dblpfbot}{0pt plus 1fil}
975 \setlength{\@dblpfsep}{8pt plus 1fil}

```

4.9.4 Captions

Figures and tables use the same caption command in the standard book.cls. This causes problems with spacing, because figure captions are normally below the figure while table captions are above the table. Make the spacing equal.

Set parameters for usthesis.cls.

```

976 *cls>
977 \setlength{\abovecaptionskip}{0.5\baselineskip}
978 \setlength{\belowcaptionskip}{0.5\baselineskip}

```

\@makecaption Redefine the caption output.

```

979 \long\def\@makecaption#1#2{%
980   \vskip\abovecaptionskip
981   \sbox\@tempboxa{\small{\bfseries #1:} #2}%
982   \ifdim \wd\@tempboxa >\hsize
983     \unhbox\@tempboxa\par
984   \else
985     \global \@minipagefalse
986     \hb@xt@\hsize{\hfil\box\@tempboxa\hfil}%
987     \fi
988   \vskip\belowcaptionskip}
989 \</cls>

```

Set parameter for memoir.

```
990 \*mem>
991 \captiondelim{: }
992 \captionnamefont{\small\bfseries}
993 \captiontitlefont{\small}
994 \captionstyle{}
995 \*mem>
```

```
996 \*cls | mem>
```

The end of this package.

Change History

v0.1		\ThesisDescript: Move layout to	
General: Initial version	1	title page	32
v1.1		\TitlePage: Change thesis descrip-	
General: Major code update	1	tion	30
v1.1a		v2.2	
General: Documentation update	1	General: Change typo in supervi-	
v1.1b		sors	21
General: Documentation update	1	v2.2a	
v2.0		General: Documentation update	1
General: Documentation update	1	v3.0	
Page layout	1	General: Change twosided to sym-	
v2.1		metric layout	27
General: Bug in PhD description	32	Documentation update	1
Documentation update	1	\CopyrightPage: Remove copyright	
\MastersDescript: Change mas-		page	33
ters description to conform with		\DeclarationPage: Add copyright	
US requirements	20	to Declaration page	34
\promotor: Change for promo-		\SetCopyrightHolder: Add	34
tor/colortbl bug	32	\SetCopyrightOff: Add	34
\StudyLeaderType: Change study			
leader to supervisor	21		