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usnomenc1.sty*

Simple utility to set a nomenclature or list of symbols for US theses.

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*This document corresponds to `usnomenc1` v1.1, dated 2008/05/30.

1 USnomenc1

1.1 Introduction

The USnomenc1 package is a very simple utility to set a nomenclature or list of symbols. There are more sophisticated packages available such as `nomenclature`. The package is loaded in the preamble of the document with

```
\usepackage{usnomenc1}
```

1.2 Macros

Nomenclature environment

The package provides the `Nomenc1` list environment to typeset lists of symbols.

```
\begin{Nomenc1}[\langle Label width \rangle]  
  \langle Nomenclature entries \rangle  
\end{Nomenc1}
```

The optional argument (valid TeX length) can be used to adjust the label width.

Headings

Headings can be set with the `\NomGroup` command.

```
\NomGroup{\langle Heading \rangle}
```

Lines with units declarations

Items with units declarations can be set with the `\UnitLine` command.

```
\UnitLine[\langle unit width \rangle]{\langle description \rangle}{\langle unit \rangle}
```

The unit is set in math mode with upright roman font. The default width of the unit label can be changed with the `\UnitLabelWdth` length

```
\setlength{\UnitLabelWdth}{2.5cm}
```

The format of the unit label can be changed by redefining the `\UnitLabel` macro. For example if you are using the `Sistyle` package, then

```
\renewcommand*{\UnitLabel}[1]{\sim[\,\,\backslash SI\,]{\#1}\,\,}
```

1.3 Example of usage

An example of the input of a list of symbols is

```
\begin{Nomencl}[2em]
\NomGroup{Constants}
  \item[ $\pi =$ ] 3.141\,592\,654
  \item[ $\mathrm{e} =$ ] 2.718\,281\,828

\NomGroup{Variables}
  \item[ $\mathit{Re}_D$ ] Reynolds number (diameter)

  \item[ $x$ ] Coordinate
  \item[ $a$ ] Acceleration \\\
  \item[ $\theta$ ] Rotation angle
  \item[ $\tau$ ] Moment

\NomGroup{Variables with units}
  \item[ $\mathit{Re}_D$ ] Reynolds number (diameter){-}
  \item[ $x$ ] \UnitLine{Coordinate}{m}
  \item[ $a$ ] \UnitLine{Acceleration}{m/s^2}\\
  \item[ $\theta$ ] \UnitLine{Rotation angle}{rad}
  \item[ $\tau$ ] \UnitLine{Moment}{N\cdot m}
\end{Nomencl}
```

Constants

$\pi =$ 3.141 592 654
 $e =$ 2.718 281 828

Variables

Re_D Reynolds number (diameter)
 x Coordinate
 a Acceleration

 θ Rotation angle
 τ Moment

Variables with units

Re_D Reynolds number (diameter) [–]
 x Coordinate [m]
 a Acceleration [m/s²]

 θ Rotation angle [rad]
 τ Moment [N · m]

2 Implementation: USnomenc1

Identification

```

1 <*pkg>
2 \NeedsTeXFormat{LaTeX2e}[1999/12/01]
3 \ProvidesPackage{usnomenc1}[2008/05/30
4                               v1.1
5                               Stellenbosh Thesis Nomenclature (DNJ ELS)]

```

External packages

```

6 \RequirePackage{calc}

\USN@tdima
\USN@NomGrpSep 7 \newlength{\USN@tdima}
8 \newlength{\USN@NomGrpSep}

\NomGrpSep
\NomItmSep 9 \newlength{\NomGrpSep}
\NomItmMrg 10 \newlength{\NomItmSep}
\NomLblSep 11 \newlength{\NomItmMrg}
12 \newlength{\NomLblSep}

13 \setlength{\NomGrpSep}{\baselineskip}
14 \setlength{\NomItmSep}{\smallskipamount}
15 \setlength{\NomItmMrg}{1em}
16 \setlength{\NomLblSep}{1em}

\NomGrpLabel
17 \newcommand{\NomGrpLabel}[1]{\textbf{#1}}

\USN@NomGrpSep
18 \setlength{\USN@NomGrpSep}{0pt}

\NomGroup
19 \newcommand\NomGroup[1]{%<-Group Headings
20   \vspace{\USN@NomGrpSep}%
21   \setlength{\USN@NomGrpSep}{\NomGrpSep}%
22   \item[\hspace*{-\NomItmMrg}\NomGrpLabel{#1}]}

\NomLabel
23 \newcommand{\NomLabel}[1]{#1\hfil}

Nomenc1
24 \newenvironment{Nomenc1}[1][2em]{%<- Nomenclature list environment
25   {\list{}{
26     \setlength{\labelwidth}{#1}%
27     \setlength{\labelsep}{\NomLblSep}%
28     \setlength{\itemindent}{0pt}%
29     \setlength{\leftmargin}{\labelwidth+\labelsep-\itemindent+\NomItmMrg}%
30     \setlength{\listparindent}{\parindent}%
31     \setlength{\itemsep}{\NomItmSep}%
32     \setlength{\parsep}{\parskip}%
33     \let\makelabel\NomLabel}}%
34   {\endlist}

```

```

\UnitLabel
35 \newcommand*{\UnitLabel}[1]{~\,\ensuremath{\mathrm{#1}}\,}}

\UnitLabelWidth
36 \newlength{\UnitLabelWidth}
37 \setlength{\UnitLabelWidth}{2cm}

\UnitLine
38 \newcommand{\UnitLine}[3][\UnitLabelWidth]{\%
39   \setlength{\USN@tdima}{#1}%
40   \rightskip\USN@tdima\relax
41   \parfillskip -\rightskip
42   \leavevmode
43   {#2}\nobreak
44   \leaders\hbox{$\m@th\mkern \@dotsep mu\hbox{\tiny.}\mkern \@dotsep mu$}%
45   \hfill
46   \nobreak
47   \makebox[\USN@tdima][l]{\UnitLabel{#3}}%
48 }

49 </pkg>
The end of this package.

```

Change History

v1.0		v1.1
General: Initial version	1	General: Add unit lines 1
v1.0a		
General: Documentation changes	1	



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ussummary.sty*

Summary page required for the final year projects of the Department
of Mechanical Engineering.

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2006/03/08

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*This document corresponds to USsummary v1.0a, dated 2006/03/08.

1 USsummary

1.1 Introduction

The USsummary package is intended to typeset the summary page required for the final year projects of the Department of Mechanical Engineering. The package is loaded in the preamble of the document with

```
\usepackage{ussummary}
```

1.2 Macros

The **Summary** environment setup the page layout and headings. The argument *Heading* is also written to the table of contents.

```
\begin{Summary}{\langle Heading \rangle}
  \langle Contents \rangle
\end{Summary}
```

The student information, summary table and signatures are placed inside the **Summary** environment. A typical usage would be:

```
\begin{Summary}{\langle Heading \rangle}
  \noindent
  \begin{tabular}{@{}l}
    \textsf{Student:} & \langle Name \rangle \\
    \textsf{Co-worker} & \langle Name \rangle \\
  \end{tabular}

  \begin{SumTable}
    \langle Summary table data \rangle \\
  \end{SumTable}

  \vspace{1.5cm}
  \SumSignatures

\end{Summary}
```

The standard summary table is set inside the **SumTable** environment. This table uses the **longtable** package to provide a table that can break across pages. Note that because it is a **L^AT_EX** table that every paragraph must be terminated with a new line command (`\`).

```
\begin{SumTable}
  \langle Summary table data \rangle \\
\end{SumTable}
```

Headings are set on a colored background with the `\SumHead` command. Note that it must be terminated with a new line command (`\`).

```
\SumHead{\langle Heading text \rangle}
```

A typical usage is:

```
\begin{SumTable}
\hline
\SumHead{\langle heading \rangle}\\
\hline
\langle Paragraph \rangle\\
\langle Paragraph \rangle\\
:
\hline
\SumHead{\langle heading \rangle}\\
\hline
\langle Paragraph \rangle\\
:
\hline
\end{SumTable}
```

Signatures can be set below the summary table with the `\SumSignatures` command.

`\SumSignatures`

2 Example

3 Code

```
\begin{Summary}{Meganiiese Projek 478: Opsomming}
\noindent
\begin{tabular}{@{}l@{}}
\textsf{Student:} & S.W.\ Bekker\\
\textsf{Medewerker:} & \\
\end{tabular}

\begin{SumTable}
\hline%-----
\SumHead{Titel van Projek}\\
\hline%-----
Die ontwerp, bou en toets van n vibrasie toetsbank vir n korrelagtige
materiaal.\\
\hline%-----
\SumHead{Doelwit}\\
\hline%-----
Die daarstelling van n toetsbank wat die trek van bv.\ n ploeg kan
simuleer. Die trekkrag op die ploeg asook die amplitude en frekwensie
van die vibrasie moet gemeet kan word.\\
\hline%-----
\SumHead{Wat het ek gedoen wat uniek is?}\\
\hline%-----
Litteratuurstudie om op hoogte te kom van wat reeds gedoen is.\\
Die konsep vir die opwek van die vibrasie ontwerp, bou en verder
ontwikkel vir die spesifieke stelsel.\\
Die simulاسie van n vibrasie ploeg in n korrelrige materiaal
\end{SumTable}
```



```

        bv.\ sand.\
\hline%-----
\SumHead{Wat is die bevindinge?}\
\hline%-----
        Dat die trekkrak op die ploeg verminder kan word deur die aanwending
        van n vibrasie op die ploeg, en dat daar n optimum punt by n sekere
        frekwensie en amplitude is waar die trekkrak die kleinste is vir n s
        ekere korrelagtige materiaal.\
\hline%-----
\SumHead{Nuttigheid van resultate?}\
\hline%-----
        Die resultate kan gebruik word om n numeriese model op te stel wat
        die trekkrak, frekwensie en amplitude voorspel. So kan ploegontwerp
        geoptimeer word sonder eksperimentele
        toetsing.\
\hline%-----
\SumHead{In geval meer as een student, welke deel het jy gedoen?}\
\hline%-----
        N.V.T.\
\hline%-----
\SumHead{Watter aspekte van die projek sal na afloop daarvan verder
        voortgesit word?}\
\hline%-----
        Bestudering van die invloed van vibrasie van die ploeg op trekkrak.\
        Die verwerking van resultate om numeriese modell te
        ontwikkel.\
\hline%-----
\SumHead{Wat is die verwagte voordele van die voortsetting?}\
\hline%-----
        Deur numeriese modelle op te stel, kan die simulاسie in die nywerheid
        goedkoper gemaak word en kan dit vinniger geskied om die optimum
        produk te vervaardig.\
\hline%-----
\SumHead{Watter re"elings word getref vir voortsetting?}\
\hline%-----
        Die vibrasietoetsbankprojek word so bedryf dat dit n eindproduk lewer wat
        aan al die spesifikاسies voldoen en ook nuttige toetsresultate sal lewer.\
\hline%-----
\end{SumTable}

    *** Signatures *****
\vspace{1.5cm}
\SumSignatures
\end{Summary}

```

Output on next page

MEGANIESE PROJEK 478: OPSOMMING

Student: S.W. Bekker

Medewerker:

Titel van Projek
Die ontwerp, bou en toets van n vibrasie toetsbank vir n korrelagtige materiaal.
Doelwit
Die daarstelling van n toetsbank wat die trek van bv. n ploeg kan simuleer. Die trekkrag op die ploeg asook die amplitude en frekwensie van die vibrasie moet gemeet kan word.
Wat het ek gedoen wat uniek is?
Litteratuurstudie om op hoogte te kom van wat reeds gedoen is. Die konsep vir die opwek van die vibrasie ontwerp, bou en verder ontwikkel vir die spesifieke stelsel. Die simulase van n vibrasie ploeg in n korrelrige materiaal bv. sand.
Wat is die bevindinge?
Dat die trekkrag op die ploeg verminder kan word deur die aanwending van n vibrasie op die ploeg, en dat daar n optimum punt by n sekere frekwensie en amplitude is waar die trekkrag die kleinste is vir n sekere korrelagtige materiaal.
Nuttigheid van resultate?
Die resultate kan gebruik word om n numeriese model op te stel wat die trekkrag, frekwensie en amplitude voorspel. So kan ploegontwerp geoptimeer word sonder eksperimentele toetsing.
In geval meer as een student, welke deel het jy gedoen?
N.V.T.
Watter aspekte van die projek sal na afloop daarvan verder voortgesit word?
Bestudering van die invloed van vibrasie van die ploeg op trekkrag. Die verwerking van resultate om numeriese modell te ontwikkel.
Wat is die verwagte voordele van die voortsetting?
Deur numeriese modelle op te stel, kan die simulase in die nywerheid goedkoper gemaak word en kan dit vinniger geskied om die optimum produk te vervaardig.
Watter reëlins word getref vir voortsetting?
Die vibrasietoetsbankprojek word so bedryf dat dit n eindproduk lewer wat aan al die spesifikasies voldoen en ook nuttige toetsresultate sal lewer.

Student

Date

Lecturer

4 Implementation: USsummary

Identification

```
1 (*pkg)
2 \NeedsTeXFormat{LaTeX2e}[1999/12/01]
3 \ProvidesPackage{ussummary}[2006/03/08
4                               v1.0a
5                               Stellenbosh Mech Eng Summary page (DNJ ELS)]
```

External packages

```
6 \RequirePackage{calc}
7 \RequirePackage{array}
8 \RequirePackage{longtable}
9 \RequirePackage{colortbl}

10 %\AtBeginDocument{%
11 %   \providecommand*{\CT@cell@color}{\relax}}

\phantomsection

12 \providecommand*{\phantomsection}{}

\AorE

13 \@ifundefined{US@AFRstr}%
14   {\edef\US@AFRstr{\string afrikaans}}%
15   {}
16 \providecommand{\AorE}[2]{%
17   \ifx\US@AFRstr\language #1\else #2\fi}

\SumHeadFnt
\USS@HeadFnt 18 \newcommand*{\USS@HeadFnt}{\sffamily\bfseries}
19 \newcommand*{\SumHeadFnt}[1]{\def\USS@HeadFnt{#1}}

\USS@tdima
\USS@tdimb 20 \newlength{\USS@tdima}
21 \newlength{\USS@tdimb}

USS@AdjustWidth

22 \newenvironment{USS@AdjustWidth}[2]{%
23   \begin{list}{}{%
24     \setlength{\topsep}{0pt}%
25     \setlength{\partopsep}{0pt}%
26     \setlength{\leftmargin}{#1}%
27     \setlength{\rightmargin}{#2}%
28     \setlength{\listparindent}{\parindent}%
29     \setlength{\itemindent}{\parindent}%
30     \setlength{\parsep}{\parskip}%
31   }%
32   \item[]{\end{list}}}

USS@SetMargins

33 \newenvironment{USS@SetMargins}[2]%
34   {\setlength{\USS@tdima}{-1in-\hoffset-\oddsidemargin}%

```

```

35 \setlength{\USS@tdimb}{-\USS@tdima}%
36 \addtolength{\USS@tdima}{#1}%
37 \addtolength{\USS@tdimb}{-\paperwidth+\textwidth+#2}%
38 \begin{USS@AdjustWidth}{\USS@tdima}{\USS@tdimb}}%
39 {\end{USS@AdjustWidth}}

```

Summary

```

40 \newenvironment{Summary}[2][\USS@default]
41 {\def\USS@default{#2}%
42 \clearpage
43 \setlength{\USS@tdima}{15mm - 1in-\voffset-\topmargin-\headheight-\headsep-\topskip}%
44 \vspace*{\USS@tdima}%
45 \thispagestyle{plain}%
46 \phantomsection
47 \@ifundefined{chapter}
48 {\addcontentsline{toc}{section}{#1}}%
49 {\addcontentsline{toc}{chapter}{#1}}%
50 \markboth{#2}{#2}%
51 \begin{USS@SetMargins}{25mm}{25mm}
52 {\centering\large\USS@HeadFnt\MakeUppercase{#2}\par}
53 \bigskip}
54 {\end{USS@SetMargins}}

```

SumTable

```

55 \newenvironment{SumTable}
56 {\setlength\LTleft{\leftmargin}%
57 \setlength\LTRight{\fill}%
58 \renewcommand{\arraystretch}{1.25}%
59 \small
60 \begin{longtable}{|p{\linewidth-2\tabcolsep-.8pt}|}%
61 {\end{longtable}}

62 \newcommand{\SumHead}[1]{%<-- Heading for summary
63 \multicolumn{1}
64 {>{\USS@HeadFnt\columncolor[gray]{.8}c|}}%
65 {#1}}

```

macrocode

```

66 \newcommand\SumSignatures{%
67 \noindent
68 \begin{minipage}[t]{3cm}
69 \hrulefill\
70 \centering\AorE{Student}{Student}
71 \end{minipage}
72 \hfill
73 \begin{minipage}[t]{3cm}
74 \hrulefill\
75 \centering\AorE{Datum}{Date}
76 \end{minipage}
77 \hfill
78 \begin{minipage}[t]{3cm}
79 \hrulefill\
80 \centering\AorE{Dosent}{Lecturer}
81 \end{minipage}
82 \par}

```

83 $\langle /pkg \rangle$

The end of this package.

Change History

v1.0		v1.0a
General: Initial version 1	General: Documentation update . . 1



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The `usthesis` Class and Style*

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2014/11/28

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 v5.0, last revised 2014/11/28.

[†]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

- (a) The `usthesis.cls` class is loaded in the document preamble with

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

- (b) or `usthesis.sty` with the `memoir` class

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

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.

Type block sizes: The ISO A4 paper size (297,3 mm × 210,2 mm) is not ideally suited for typesetting off books. The *A5 type block* (fig 1) and the *golden ratio 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 ratio type block,

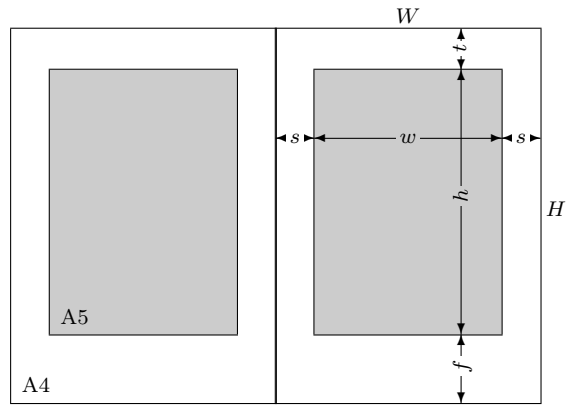
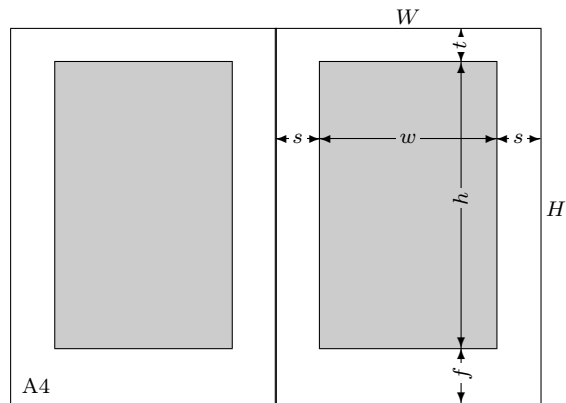
wideblock: Type block with 25 mm borders

stdblock: Standard L^AT_EX type block [default].

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

Figure 1: ISO A4 paper with A5 type block (**A5block**)Figure 2: ISO A4 paper with golden ratio type block (**goldenblock**)

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 30 mm margins all around.

(a) memoir.cls with usthesis.sty

```
\documentclass[a4paper,<options>]{memoir}
\usepackage[<options>]{usthesis}
\setlrmarginsandblock{30mm}{30mm}{*} % Left/Right margins
\setulmarginsandblock{30mm}{30mm}{*} % Upper/Lower margins
\checkandfixthelayout \setlength{\headwidth}{\textwidth}
```

(b) usthesis.cls

```
\documentclass[a4paper,<options>]{usthesis}
\usepackage[hmargin={30mm,30mm},vmargin={30mm,30mm}]{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, english]{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, english]{babel} % English default
```

```
\usepackage[english, afrikaans]{babel} % Afrikaans default
```

or preferably with global options

```
\documentclass[⟨options⟩, afrikaans, english]{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-tekst⟩}{⟨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`

`Eng`

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

With the `afrikaans` option of `babel` the character " is made active (see table 2. 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 words. The simplest way to correct a wrongly hyphenated word is to

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, ffi, etc.) at this position but allow a hyphen, e.g.: The word 'stoffer' looks better as 'stoffilter'. It is then hyphenated as 'stoffilter'
"-	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.

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 \TeX 's virtual font mechanism, to be available for \LaTeX . Font handling can be switched to T1 encoding (if you have the Postscript 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 \TeX distributions, but Postscript fonts with a full set of mathematical symbols are very scarce, see: <http://www.tug.dk/FontCatalogue>. Some of the freely available ones are:

Computer Modern: Newer \LaTeX installations contain this classic \TeX font in Type 1 format. This fontset is loaded by default if T1 encoding is specified without any other font loaded. Alternatively use the `lmodern` package. 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,a5block,%.. Layout
               english,afrikaans,      %.. Global lang drivers
               ]{usthesis}

\usepackage{babel}                    %.. Language setup
\usepackage[latin1]{inputenc}         %.. Recognizes â, ë, etc
\usepackage{amsmath}                  %.. Advanced maths (before fonts)
\usepackage[T1]{fontenc}              %.. Type 1 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 (AMS) math packages. The AMS packages also include additional math symbols, but load them only if really necessary, because they are very big.

```
\usepackage[<options>]{amsmath}
\usepackage{amssymb}% only if necessary
```

Bold math symbols can be obtained with the AMS 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} % or xcolor
```

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 (build into the `memoir` package). With this package, footnotes and captions are still single spaced, while no additional vertical spacing is added around display math or in lists.

(a) One and a half lines spacing for `memoir.cls` with `usthesis.sty`

```
\documentclass[<options>]{memoir}
\usepackage[<options>]{usthesis}
\OnehalfSpacing % or \DoubleSpacing .... Line spacing
:
\begin{document}
  \frontmatter
  \begin{SingleSpace}
    \TitlePage%..... Single spaced title page
  \end{SingleSpace}
  :
```

(b) One and a half lines spacing for `usthesis.cls`

```
\documentclass[<options>]{usthesis}
\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 (build into the `memoir` package).

(a) Paragraph spacing for `memoir.cls` with `usthesis.sty`

```
\documentclass[⟨options⟩]{memoir}
\usepackage[⟨options⟩]{usthesis}
\nonzeroparskip%..... Space between paragraphs
\setlength{\parindent}{0pt}%.. Zero paragraph indents
```

(b) Paragraph spacing for `usthesis.cls`

```
\documentclass[⟨options⟩]{usthesis}
\usepackage{parskip}%..... Paragraph spacing + zero indent
```

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

`siunitx`: This package is essential for the typesetting of SI units and numbers.

`Sistyle`: Older package for the 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.

`dcolumn`: 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”.

`xcolumn`: 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 \LaTeX . 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. A typical setup for hyper links (at the end of the preamble) is:

```
\iftrue
  \usepackage[\langle options \rangle]{hyperref}%... Hyperlinks & backreferences
  %\usepackage{memhfixc} %..... Memoir fix (hyperref>6.75g autoloads it)
\else
  \usepackage{nohyperref}%..... Disable hyperlinks
  \usepackage{url}
\fi
\hypersetup{\langle options \rangle}
```

url A form of `\verb` 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`.

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:

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}\[lex]
        \normalfont\small\itshape('Forced Granular flow')}{
        Forced granular flow}}
```

and for an Afrikaans document

```
\title{\AorE{Geforseerde Partikelvloei}
        {Forced granular flow}\[lex]
        \normalfont\small\itshape('Geforseerde Partikelvloei')}}}
```

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.\ Smith}{John Smith}
```

Faculty

`\faculty`

```
\faculty{<faculty name>}
```

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

```
\faculty{\AorE{Fakulteit Ingenieurswese}%
        {Faculty of Engineering}}
```

Degree/Subject

`\degree` `\subject` `\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{MIng (Meg)}
          {MEng (Mech)}}
        {\AorE{Magister in Ingenieurswese (Meganies)}
          {Master of Engineering (Mechanical)}}
```

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. For a master thesis it can be customized as

```
\ThesisDescript{Thesis presented in partial fulfilment of the
  requirements for the degree of\par
    \vspace{1em}
    {\bfseries Master of Engineering (Mechanical)\par}
    \vspace{1em}
    in the Faculty of Engineering at Stellenbosch University}
```

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

Supervisor/Co-supervisor

`\supervisor` `\cosupervisor` `\supervisor[<align>]{<name>}` or `\supervisor{<name> \and <name>}`
`\cosupervisor{<name>}` or `\cosupervisor{<name> \and <name>}`

The `\studyleader` and `\supervisor` commands are synonyms and the output depends on the document 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{Dr.\ D.N.J.\ Els} → Supervisor: Dr. D.N.J. Els
```

or

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

or

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

→

Supervisors:
Dr. D. Els
Mnr. J. Smith

For a co-supervisor

```
\supervisor{Dr.\ D.\ Els}
\cosupervisor{Mnr.\ J.\ Smith}
```

→

Supervisor: Dr. D. Els
Co-supervisor: Mnr. J. Smith

or

```
\supervisor{%
  Prof A.H.\ Basson\[\.5ex]
  Mechanical Engineering\
  Stellenbosch University}
\cosupervisor{%
  Prof P.A.\ Vermeer\[\.5ex]
  Institut f\"ur Geotechnic\
  Universit\"at Stuttgart}
```

→

Supervisor: Prof A.H. Basson
Mechanical Engineering
Stellenbosch University
Co-supervisor: Prof P.A. Vermeer
Institut für Geotechnic
Universität Stuttgart

or

```
\supervisor*[c]{%
  Prof A.H.\ Basson\[\.5ex]
  Mechanical Engineering\
  Stellenbosch University}
\cosupervisor{%
  Prof P.A.\ Vermeer\[\.5ex]
  Institut f\"ur Geotechnic\
  Universit\"at Stuttgart}
```

→

Supervisor:	Co-supervisor:
Prof A.H. Basson	Prof P.A. Vermeer
Mechanical Engineering	Institut für Geotechnic
Stellenbosch University	Universität Stuttgart

Date

```
\date{<month>}{<year>}
```

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

```
\date{10}{2003}
```

→

October 2003

Sponsor

Sponsors such as the NRF requires an acknowledgement on the title page

```
\SetSponsor \SetSponsor{<text>}
```

```
\SetSponsor{The financial assistance of the National Research Foundation
(NRF) towards this research is hereby acknowledged. Opinions expressed
and conclusions arrived at, are those of the author and are not
necessarily to be attributed to the NRF.}
```

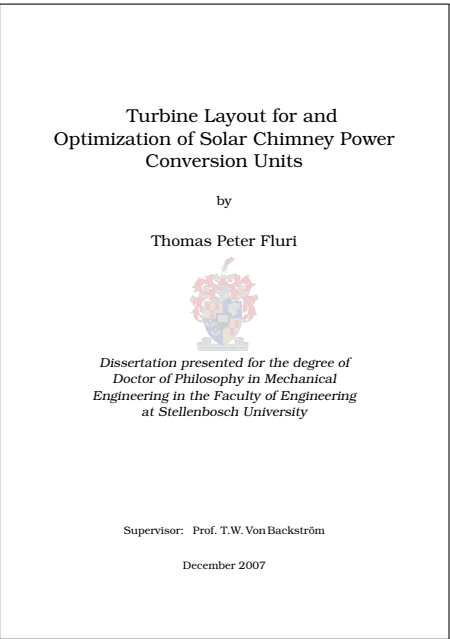


Figure 3: Title page with PhD option for examination

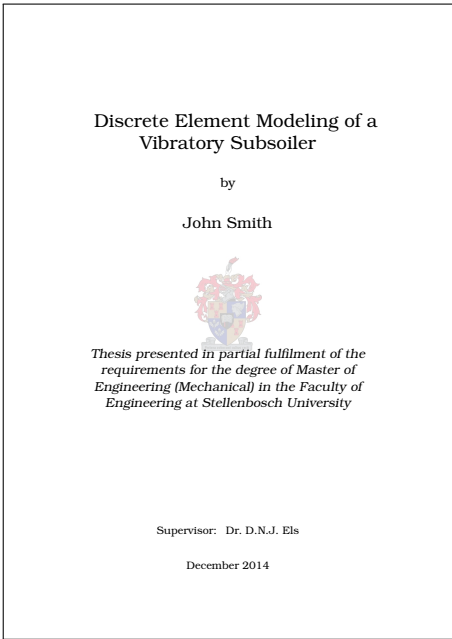


Figure 4: Title page with master-t option for a masters thesis

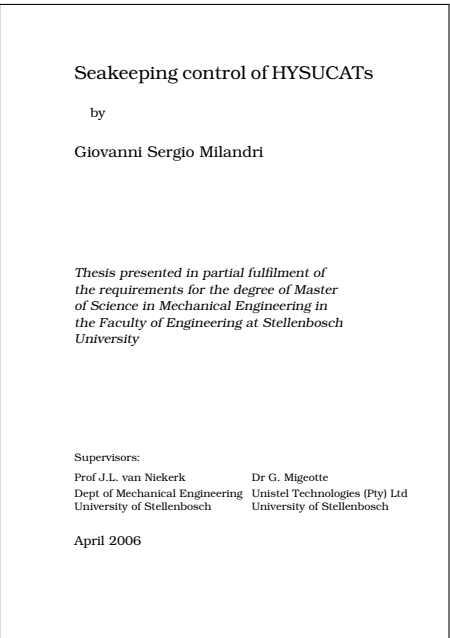


Figure 5: Custom title page for masters thesis

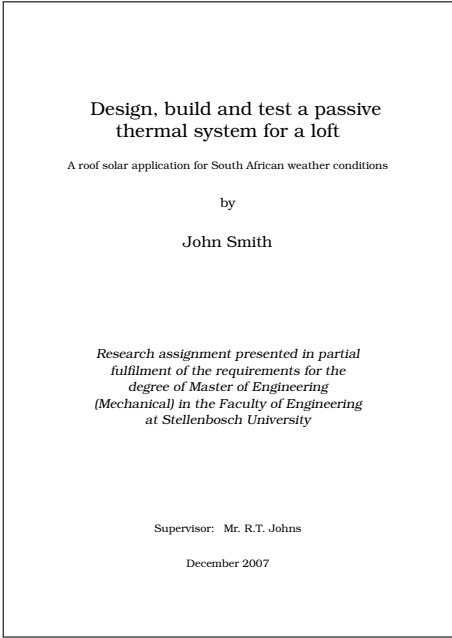


Figure 6: Title page with masters-a option for a masters assignment project

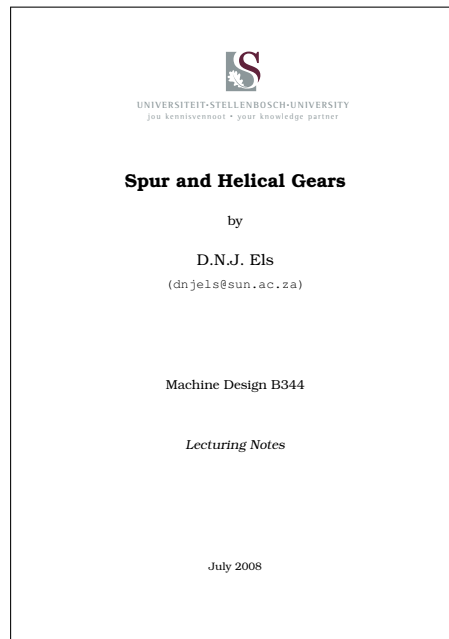


Figure 7: Title page with **report** option for lecturing notes

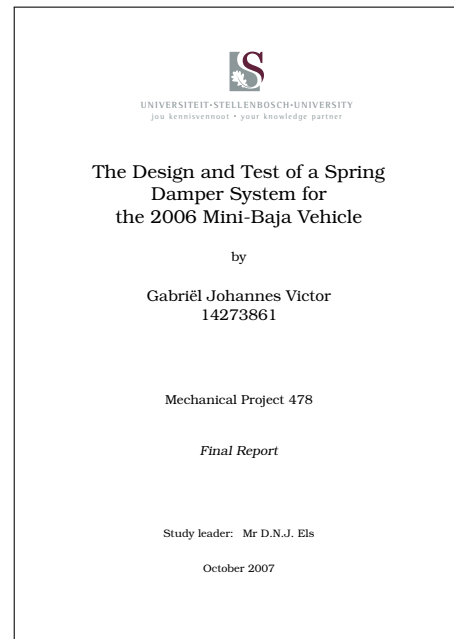


Figure 8: Title page with **report** option for final year mechanical project

The user can create his or her own title page (see figure 5), for example:

```
\thispagestyle{empty}
\vfll
{\LARGE\noindent Seakeeping control of HYSUCATs \par}
\vspace{2em}
{\large\indent by \par}
\vspace{2em}
{\Large\noindent Giovanni Sergio Milandri \par}%
\vfll\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
in the Faculty of Engineering at Stellenbosch University
\end{minipage}
\vfll
{\normalsize\noindent Supervisors:\\[1.5ex]
\begin{tabular}{@{}l@{}}
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
```

2.2 Watermark

A watermark can be added to the first page of the document with the aid of the eso-pic package.

```
\documentclass[<options>]{usthesis}
:
\usepackage{eso-pic}
\newcommand*{\WaterMark}[2][0.15\paperwidth]{%
  \AddToShipoutPicture*{\AtTextCenter{%
    \parbox[c]{0pt}{\makebox[0pt][c]{%
      \includegraphics[width=#1]{#2}}}}}
:
\begin{document}
  \frontmatter
  \WaterMark{UScrest-WM}
  \TitlePage
  :
\end{document}
```

2.3 Copyright Information

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:

`\SetCopyrightHolder` `\SetCopyrightHolder{<new copyright holder>}`

The copyright output can be switched off 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.

`\DeclarationDate` `\DeclarationDate{<date>}`
`\DeclarationPage` `\DeclarationPage`

The `\DeclarationPage` 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.

`\address` `\address{<full address>}`

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

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

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.

<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 formats bibliographies for theses and dissertations of the University of Stellenbosch. It is language sensitive and provides the correct output for both Afrikaans and English theses.

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,english,%..... 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{\captionsenglish}{\renewcommand{\bibname}{List of References}}

```

References 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[pageref]{backref}%..... Citation backreferences
\fi
\renewcommand*{\backrefalt}[4]{%
\ifcase #1 (Not cited.)%
\or      (Cited on page~#2.)%
\else    (Cited on pages~#2.)%
\fi}

```

An example is:

Rhodes, M. (1998). <i>Introduction to Particle Technology</i> . 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 External packages

We need the calc and ifpdf packages. Ifpdf is all ready declared by memoir.

```
17 \RequirePackage{calc}
18 < *cls >
19 \RequirePackage{ifpdf}
20 < /cls >
```

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

```
21 \providecommand{\phantomsection}{}%
```

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

```
22 \AtBeginDocument{%
23   \@ifpackageloaded{graphicx}{}{}%
24 < cls >   \ClassError{usthesis}{You must load the graphicx package}{}%
25 < mem >   \PackageError{usthesis}{You must load the graphicx package}{}%
26   }%
27 }
```

4.3 Options

4.3.1 Language options

Utility commands:

Utility commands and environments to make local language changes.

```

\US@AFRstr String in the right catcode for tests against \language.
28 \edef\US@AFRstr{\string afrikaans}

\AorE Command \AorE{<Afr>}{<Eng>} to type text depending on the active language.
29 \newcommand{\AorE}[2]{%
30   \ifx\US@AFRstr\language #1\else #2\fi}

Afr Makes an Afrikaans environment inside an English document.
31 \newenvironment{Afr}%
32   {\ifx\language\US@AFRstr\relax\else
33     \selectlanguage{afrikaans}%
34   \fi}%
35   {}

\US@ENGstr Make provisions for all the different types of English. The command is reset within
the options.
36 \newcommand*\US@ENGstr{}
37 \let\US@ENGstr=\relax

Eng Makes an English environment inside an Afrikaans document.
38 \newenvironment{Eng}%
39   {\ifx\relax\US@ENGstr\relax\else
40     \ifx\language\US@ENGstr\relax\else
41       \edef\US@tempa{\noexpand\selectlanguage{\US@ENGstr}}%
42       \US@tempa
43     \fi
44   \fi}%
45   {}

```

Marker commands:

Commands of which the contents are defined later.

```

46 \newcommand\DegreeName{%
47   <cls> \ClassWarning{usthesis}{No degree or subject supplied}%
48   <mem> \PackageWarning{usthesis}{No degree or subject supplied}%
49   \textfb{[No degree!]}

50 \newcommand\DegreeNameLong{%
51   <cls> \ClassWarning{usthesis}{No degree or subject supplied}%
52   <mem> \PackageWarning{usthesis}{No degree or subject supplied}%
53   \textfb{[No degree!]}

```

Language commands:

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

Predefine the language commands to prevent accidental overwrite when loaded from external files.

```

54 \newcommand*\USName{}
55 \newcommand*\AuthByTxt{}
56 \newcommand*\StudyLeaderType{}
57 \newcommand*\StudyLeadersType{}
58 \newcommand*\CoStudyLeaderType{}
59 \newcommand*\CoStudyLeadersType{}
60 \newcommand*\SupervisorType{}
61 \newcommand*\SupervisorsType{}
62 \newcommand*\CoSupervisorType{}
63 \newcommand*\CoSupervisorsType{}
64 \newcommand*\TypeReport{}
65 \newcommand*\TypeAssignment{}
66 \newcommand*\TypeThesis{}
67 \newcommand*\TypePhD{}
68 \newcommand*\CopyrightHolder{}
69 \newcommand*\CopyrightTxt{}
70 \newcommand*\CopyrightAnot{}
71 \newcommand*\Signat{}
72 \newcommand*\Datetxt{}
73 \newcommand*\MasterDescript{}
74 \newcommand*\PhDDescript{}
75 \newcommand*\ThesisDeclare{}
76 \newcommand*\MonthName{}
77 \newcommand*\DeclarationName{}
78 \newcommand*\AbstractName{}

```

Input all the language setting form external files

```

79 \InputIfFileExists{usthesis.afr}
80 <mem>    {\PackageInfo{usthesis}{Input file 'usthesis.afr' loaded}}
81 <mem>    {\PackageError{usthesis}{No file 'usthesis.afr'}{}}
82 <cls>    {\ClassInfo{usthesis}{Input file 'usthesis.afr' loaded}}
83 <cls>    {\ClassError{usthesis}{No file 'usthesis.afr'}{}}
84 \InputIfFileExists{usthesis.eng}
85 <mem>    {\PackageInfo{usthesis}{Input file 'usthesis.eng' loaded}}
86 <mem>    {\PackageError{usthesis}{No file 'usthesis.eng'}{}}
87 <cls>    {\ClassInfo{usthesis}{Input file 'usthesis.eng' loaded}}
88 <cls>    {\ClassError{usthesis}{No file 'usthesis.eng'}{}}

```

Set English as default if no language option is selected.

```

89 \USextrasenglish
90 \UScaptionsenglish

```

Set language options

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

```

91 \def\US@addto#1#2{%
92   #2%

```

```

93 \temptokena{#2}%
94 \ifx#1\relax
95   \let#1\@empty
96 \fi
97 \ifx#1\undefined
98   \edef#1{\the\@temptokena}%
99 \else
100   \toks@\expandafter{#1}%
101   \edef#1{\the\toks@\the\@temptokena}%
102 \fi
103 \@temptokena{}\toks@\@temptokena}

```

`\US@addlangextras` Add the language definitions to `\extras<lang>` and `\captions<lang>` at the beginning of the document after babel.

```

104 \newcommand\US@addlangextras[2]{%
105   \AtBeginDocument{%
106     \expandafter\US@addto\csname extras#1\endcsname #2}}
107 \newcommand\US@addlangcaptions[2]{%
108   \AtBeginDocument{%
109     \expandafter\US@addto\csname captions#1\endcsname #2}}

```

Set all the different English language options.

```

110 \DeclareOption{english}{%
111   \edef\US@ENGstr{\string english}%
112   \US@addlangextras{english}{\USextrasenglish}%
113   \US@addlangcaptions{english}{\UScaptionsenglish}}
114 \DeclareOption{UKenglish}{%
115   \edef\US@ENGstr{\string UKenglish}%
116   \US@addlangextras{UKenglish}{\USextrasenglish}%
117   \US@addlangcaptions{UKenglish}{\UScaptionsenglish}}
118 \DeclareOption{USenglish}{%
119   \edef\US@ENGstr{\string USenglish}%
120   \US@addlangextras{USenglish}{\USextrasenglish}%
121   \US@addlangcaptions{USenglish}{\UScaptionsenglish}}
122 \DeclareOption{british}{%
123   \edef\US@ENGstr{\string british}%
124   \US@addlangextras{british}{\USextrasenglish}%
125   \US@addlangcaptions{british}{\UScaptionsenglish}}

```

Set Afrikaans language option.

```

126 \DeclareOption{afrikaans}{%
127   \US@addlangextras{afrikaans}{\USextrasafrikaans}%
128   \US@addlangcaptions{afrikaans}{\UScaptionsafrikaans}}

```

4.3.2 Thesis type options

`\if@Report` Flag for report option.

```

129 \newif\if@Report
130 \@Reporttrue

```

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

```

131 \newif\if@Masters
132 \@Mastersfalse

```

```

\if@PhD   Flag for PhD option.
133 \newif\if@PhD
134 \@PhDfalse

\ThesisType   Global headings that are set according to the thesis type options.
\SupervisorText 135 \newcommand{\ThesisType}{}
\SupervisorsText 136 \newcommand{\SupervisorText}{}
\CoSupervisorText 137 \newcommand{\SupervisorsText}{}
\CoSupervisorsText 138 \newcommand{\CoSupervisorText}{}
139 \newcommand{\CoSupervisorsText}{}

report: For normal reports an assignments.
140 \DeclareOption{report}{%
141   \renewcommand{\ThesisType}{\TypeReport}%
142   \renewcommand{\SupervisorText}{\StudyLeaderType}
143   \renewcommand{\SupervisorsText}{\StudyLeadersType}
144   \renewcommand{\CoSupervisorText}{\CoStudyLeaderType}%
145   \renewcommand{\CoSupervisorsText}{\CoStudyLeadersType}%
146   \@Reporttrue
147   \@Mastersfalse
148   \@PhDfalse}

masters-a: Masters with and assignment.
149 \DeclareOption{masters-a}{%
150   \renewcommand{\ThesisType}{\TypeAssignment}%
151   \renewcommand{\SupervisorText}{\SupervisorType}%
152   \renewcommand{\SupervisorsText}{\SupervisorsType}%
153   \renewcommand{\CoSupervisorText}{\CoSupervisorType}%
154   \renewcommand{\CoSupervisorsText}{\CoSupervisorsType}%
155   \@Reportfalse
156   \@Masterstrue
157   \@PhDfalse}

masters-t: Masters with a thesis.
158 \DeclareOption{masters-t}{%
159   \renewcommand{\ThesisType}{\TypeThesis}%
160   \renewcommand{\SupervisorText}{\SupervisorType}%
161   \renewcommand{\SupervisorsText}{\SupervisorsType}%
162   \renewcommand{\CoSupervisorText}{\CoSupervisorType}%
163   \renewcommand{\CoSupervisorsText}{\CoSupervisorsType}%
164   \@Reportfalse
165   \@Masterstrue
166   \@PhDfalse}

PhD: PhD dissertation handed in for examination.
167 \DeclareOption{PhD}{%
168   \renewcommand{\ThesisType}{\TypePhD}%
169   \renewcommand{\SupervisorText}{\SupervisorType}%
170   \renewcommand{\SupervisorsText}{\SupervisorsType}%
171   \renewcommand{\CoSupervisorText}{\CoSupervisorType}%
172   \renewcommand{\CoSupervisorsText}{\CoSupervisorsType}%
173   \@Reportfalse
174   \@Mastersfalse
175   \@PhDtrue}

```

PhDfinal: Option not in use any more (for backward compatibility).

```

176 \DeclareOption{PhDfinal}{%
177   \renewcommand{\ThesisType}{\TypePhD}%
178   \renewcommand{\SupervisorText}{\SupervisorType}%
179   \renewcommand{\SupervisorsText}{\SupervisorsType}%
180   \renewcommand{\CoSupervisorText}{\CoSupervisorType}%
181   \renewcommand{\CoSupervisorsText}{\CoSupervisorsType}%
182   \@Reportfalse
183   \@Mastersfalse
184   \@PhDtrue}

```

4.3.3 Page layout options

Intercept 2-column requests.

```

185 <*cls>
186 \DeclareOption{twocolumn}{%}
187 </cls>

```

\if@ABlock Flags for a5block, goldenblock and wideblock options.

```

\if@GBlock 188 \newif\if@ABlock
\if@WBlock 189 \newif\if@GBlock
190 \newif\if@WBlock
191 \@ABlockfalse
192 \@GBlockfalse
193 \@WBlockfalse

```

a5block: An A5 type block area.

```

194 \DeclareOption{a5block}{%
195 <cls> \PassOptionsToClass{a4paper}{\US@basetype}%
196   \@ABlocktrue
197   \@GBlockfalse
198   \@WBlockfalse}

```

goldenblock: A golden section type block area.

```

199 \DeclareOption{goldenblock}{%
200 <cls> \PassOptionsToClass{a4paper}{\US@basetype}%
201   \@GBlocktrue
202   \@ABlockfalse
203   \@WBlockfalse}

```

wideblock: A type block with 25 mm margins.

```

204 \DeclareOption{wideblock}{%
205 <cls> \PassOptionsToClass{a4paper}{\US@basetype}%
206   \@GBlockfalse
207   \@ABlockfalse
208   \@WBlocktrue}

```

stdblock: Standard L^AT_EX type block area.

```

209 \DeclareOption{stdblock}{%
210   \@GBlockfalse
211   \@ABlockfalse
212   \@WBlockfalse}

```

4.3.4 Process package options

```

213 <cls>\DeclareOption*{\PassOptionsToClass{\CurrentOption}{\US@basetype}}
214 \ExecuteOptions{report}
215 \ProcessOptions*\relax
216 <cls>\LoadClass[oneside,openany]{\US@basetype}

```

4.4 Temporaries

```

217 \newlength{\US@tdima}
218 \newlength{\US@tdimb}
219 \newsavebox{\US@tboxa}
220 \newsavebox{\US@tboxb}
221 \newcounter{US@tcnta}
222 \newcounter{US@tcntb}

```

4.5 Page layout

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

```

223 <*cls>
224 \newcommand\FixVertParams[1]{%
225     \normalsize
226     \setlength\US@tdima{\textheight-\topskip}%
227     \setcounter{US@tcnta}{\US@tdima}
228     \setcounter{US@tcntb}{\baselineskip}
229     \setcounter{US@tcnta}{\value{US@tcnta}/\value{US@tcntb}}
230     \setlength\textheight{\baselineskip*\value{US@tcnta}+\topskip}%
231     \setlength\US@tdima{\paperheight-\textheight}%
232     \setlength\topmargin{#1\US@tdima-\headheight-\headsep-1in}%
233     \@settopoint\topmargin}
234 </cls>

```

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

```

235 <*cls>
236 \newcommand\FixHorizParams[1]{%
237     \@settopoint\textwidth
238     \setlength\US@tdima{\paperwidth-\textwidth}%
239     \if@twoside
240         \setlength\oddsidemargin{#1\US@tdima-1in}%
241     \else
242         \setlength\oddsidemargin{.5\US@tdima-1in}%
243     \fi
244     \@settopoint\oddsidemargin
245     \setlength\evensidemargin{\US@tdima-\oddsidemargin-2in}%
246     \@settopoint\evensidemargin
247     \setlength\marginparwidth{\evensidemargin+1in-\marginparsep-1cm}%
248     \@settopoint\marginparwidth}
249 </cls>

```

4.5.1 A5 type block area

```

250 <*cls>
251 \if@ABlock

```



```

252 \setlength\paperheight {297.3mm}
253 \setlength\paperwidth {210.2mm} % A4 paper
254 \setlength\textwidth {.5\paperheight}
255 \setlength\textheight {\paperwidth}
256 \setlength\marginparsep {7\p@}
257 \setlength\marginparpush{7\p@}
258 \FixVertParams{0.375}
259 %\FixHorizParams{0.375}
260 \FixHorizParams{0.5}% Changed in v3.0
261 \ifpdf
262 \setlength\pdfpagewidth{\paperwidth}
263 \setlength\pdfpageheight{\paperheight}
264 \fi
265 \fi
266 \</cls>

267 \*mem>
268 \if@ABlock
269 \setstocksize{297.3mm}{210.2mm}% A4 paper
270 \settrimmedsize{\stockheight}{\stockwidth}{*}
271 \settypebysize{\paperwidth}
272 {0.5\paperheight}{*}% A5 text block
273 \setulmargins{*}{*}{1.666667} % 5:3
274 \if@twoside
275 %\setlrmargins{*}{*}{1.666667} % 5:3
276 \setlrmargins{*}{*}{1.000000} % 1:1 Changed in v3.0
277 \else
278 \setlrmargins{*}{*}{1.000000} % 1:1
279 \fi
280 \checkandfixthelayout
281 \setlength{\headwidth}{\textwidth}
282 \fi
283 \</mem>

```

4.5.2 Golden section type block area

```

284 \*cls>
285 \if@GBlock
286 \setlength\paperheight {297.3mm}
287 \setlength\paperwidth {210.2mm} % A4 paper
288 \setlength\textheight {0.747547\paperheight}
289 \setlength\textwidth {0.666667\paperwidth}
290 \setlength\marginparsep {7\p@}
291 \setlength\marginparpush{7\p@}
292 \FixVertParams{0.375}
293 %\FixHorizParams{0.375}
294 \FixHorizParams{0.5}% Changed in v3.0
295 \ifpdf
296 \setlength\pdfpagewidth{\paperwidth}
297 \setlength\pdfpageheight{\paperheight}
298 \fi
299 \fi
300 \</cls>

301 \*mem>
302 \if@GBlock

```

```

303 \setstocksize{297.3mm}{210.2mm}
304 \settrimmedsize{\stockheight}{\stockwidth}{*}
305 \settypeblocksize{0.747547\paperheight}
306 {0.666667\paperwidth}{*}% Golden ratio block
307 \setulmargins{*}{*}{1.666667} % 5:3
308 \if@twoside
309 %\setlrmargins{*}{*}{1.666667} % 5:3
310 \setlrmargins{*}{*}{1.000000} % 1:1 Changed in v3.0
311 \else
312 \setlrmargins{*}{*}{1.000000} % 1:1
313 \fi
314 \checkandfixthelayout
315 \setlength{\headwidth}{\textwidth}
316 \fi
317 \</mem>

```

4.5.3 Wide type block area

```

318 \<cls>
319 \if@WBlock
320 \setlength\paperheight {297.3mm}
321 \setlength\paperwidth {210.2mm} % A4 paper
322 \setlength\textheight {\paperheight-50mm}
323 \setlength\textwidth {\paperwidth-50mm}
324 \setlength\marginparsep {7\p@}
325 \setlength\marginparpush{7\p@}
326 \FixVertParams{0.5}
327 \FixHorizParams{0.5}
328 \ifpdf
329 \setlength\pdfpagewidth{\paperwidth}
330 \setlength\pdfpageheight{\paperheight}
331 \fi
332 \fi
333 \</cls>
334 \<mem>
335 \if@WBlock
336 \setstocksize{297.3mm}{210.2mm}
337 \settrimmedsize{\stockheight}{\stockwidth}{*}
338 \setlrmarginsandblock{25mm}{25mm}{*}
339 \setulmarginsandblock{25mm}{25mm}{*}
340 \checkandfixthelayout
341 \setlength{\headwidth}{\textwidth}
342 \fi
343 \</mem>

```

4.6 Utility commands

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

```

344 \begingroup
345 \catcode'\Q=3
346 \long\gdef\US@ifempt#1{\US@ifempt#1QQ\@secondoftwo\@firstoftwo\@nil}
347 \long\gdef\US@ifempt#1#2Q#3#4#5\@nil{#4}
348 \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.

```

349 \newenvironment{US@adjustwidth}[2]{%
350   \begin{list}{}{%
351     \setlength{\topsep}{0pt}%
352     \setlength{\partopsep}{0pt}%
353     \setlength{\leftmargin}{#1}%
354     \setlength{\rightmargin}{#2}%
355     \setlength{\listparindent}{\parindent}%
356     \setlength{\itemindent}{\parindent}%
357     \setlength{\parsep}{\parskip}%
358   }%
359   \item[]{\end{list}}

```

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

```

360 \newenvironment{SetMargins}[2]%
361   {\setlength{\US@tdima}{-1in-\hoffset-\oddsidemargin}%
362    \setlength{\US@tdimb}{-\US@tdima}%
363    \addtolength{\US@tdima}{#1}%
364    \addtolength{\US@tdimb}{-\paperwidth+\textwidth+#2}%
365    \begin{US@adjustwidth}{\US@tdima}{\US@tdimb}%
366   }%
367   {\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}

368 \newenvironment{US@titlepage}[4]
369   {\cleardoublepage
370    \if@twocolumn
371      \@restonecoltrue\onecolumn
372    \else
373      \@restonecolfalse\newpage
374    \fi
375    \thispagestyle{empty}%
376    \setcounter{page}\@one

    Set the top margin by moving the starting point up.

377    \setlength{\US@tdima}{1in+\voffset+\topmargin+\headheight+\headsep+\topskip}%
378    \setlength{\US@tdimb}{#1 -\US@tdima}%
379    \vspace*{\US@tdimb}%

    Set the bottom margin by enlarging the page

380    \addtolength{\US@tdima}{\textheight-\paperheight-\topskip}%
381    \addtolength{\US@tdima}{#2}%
382    \enlargethispage{-\US@tdima}%

```

Set the left and right margins by putting the contents in a list environment with widened margins.

```

383 \setlength{\US@tdima}{-1in-\hoffset-\oddsidemargin}%
384 \setlength{\US@tdimb}{-\US@tdima}%
385 \addtolength{\US@tdima}{#3}%
386 \addtolength{\US@tdimb}{-\paperwidth+\textwidth+#4}%
387 \begin{US@adjustwidth}{\US@tdima}{\US@tdimb}%
388 }%
389 {\end{US@adjustwidth}%
390 \if@restonecol\twocolumn \else \newpage \fi
391 \if@twoside\else
392 \setcounter{page}\@ne
393 \fi}

```

Undefine the standard title page.

```

394 \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.

```

395 \newcommand{\TitlePage}{%
396 \begingroup
397 \let\footnote\relax
398 \begin{US@titlepage}{2cm}{2.5cm}{2.5cm}{2.5cm}%
399 \centering
400 \if@Report
401 \includegraphics[width=100mm]{USlogo-top}\par
402 \vfill
403 \else
404 \includegraphics[width=88mm]{UScrest-top}\par
405 \vfill
406 \fi
407 {\LARGE \@title \par}
408 \vspace{2em}
409 \if@Authorpresent
410 {\large \AuthByTxt\par}
411 \vspace{2em}
412 {\Large
413 \lineskip .75em\relax%
414 \begin{tabular}[t]{c}%
415 \US@authorlong
416 \end{tabular}\par}%
417 \vfill
418 \vfill
419 \fi
420 \if@Report\if@Subjectpresent
421 {\large\DegreeNameLong\par}
422 \vfill
423 \fi\fi
424 {\large\slshape
425 \begin{US@adjustwidth}{1.5cm}{1.5cm}
426 \centering\US@ThesisDescript

```

```

427         \end{US@adjustwidth}\par}
428         \vfill
429         \vfill
430         {\normalsize \US@spvset \par}
431         \vspace{2em}
432         {\normalsize \US@date\par}%
433         {\footnotesize \US@sponsor \par}
434     \end{US@titlepage}%
435 \endgroup
436 \global\let\TitlePage\relax
437 \setcounter{footnote}{0}%
438 \global\let\thanks\relax
439 \global\let\@thanks\@empty
440 % \global\let\and\relax
441 }

```

Author block

```

442 \newif\if@Authorpresent
443 \@Authorpresentfalse
444 \renewcommand\author[2]{%
445     \@Authorpresenttrue%
446     \gdef\US@author{#1}%
447     \gdef\US@authorlong{#2}}
448 \newcommand\US@author{%
449 <cls> \ClassWarning{usthesis}{No author supplied}%
450 <mem> \PackageWarning{usthesis}{No author supplied}%
451 }
452 \newcommand\US@authorlong{%
453 <cls> \ClassWarning{usthesis}{No author supplied}%
454 <mem> \PackageWarning{usthesis}{No author supplied}%
455 }

```

Thesis or report description

```

456 \newcommand{\US@ThesisDescript}{%
\ThesisDescript
457 \newcommand\ThesisDescript[1]{%
458     \long\gdef\US@ThesisDescript{#1}}
459 \let\ReportDescript=\ThesisDescript
460 \if@Masters
461     \ThesisDescript{\MasterDescript}
462 \fi
463 \if@PhD
464     \ThesisDescript{\PhDDescript}%
465 \fi

```

Degree or subject

```

\if@Subjectpresent
466 \newif\if@Subjectpresent
467 \@Subjectpresentfalse

```

See beginning of class for \DegreeName and \DegreeNameLong.

```
468 \newcommand\degree[2]{%
469   \@Subjectpresenttrue
470   \gdef\DegreeName{#1}%
471   \gdef\DegreeNameLong{#2}}
472 \let\subject=\degree
```

Address and faculty

\address

```
473 \newcommand\address[1]{\gdef\US@address{#1}}
474 \let\address\address % backward compatibility :-)

475 \newcommand\US@address{%
476 <cls>   \ClassWarning{usthesis}{No institutional address supplied}%
477 <mem>   \PackageWarning{usthesis}{No institutional address supplied}}
```

\faculty

```
478 \newcommand\faculty[1]{\gdef\USfaculty{#1}}

479 \newcommand\USfaculty{%
480 <cls>   \ClassWarning{usthesis}{No faculty name supplied}%
481 <mem>   \PackageWarning{usthesis}{No faculty name supplied}%
482   \textbf{[No faculty name supplied!]}}
```

Supervisor or study leader

\ifUS@spvpresent

\ifUS@cosvpvpresent

```
483 \newif\ifUS@spvpresent\US@spvpresentfalse
484 \newif\ifUS@cosvpvpresent\US@cosvpvpresentfalse

485 \newif\ifUS@spvmult\US@spvmultfalse
486 \newif\ifUS@cospvmult\US@cospvmultfalse
487 \newif\ifUS@spvrows\US@spvrowsfalse

488 \newcommand\US@spv{}
489 \newcommand\US@cospv{}
490 \newcommand*\US@spvalign{1}
```

\supervisor

```
491 \newcommand{\supervisor}{%
492   \@ifstar{\US@spvrowsfalse\@supervisor}%
493           {\US@spvrowstrue\@supervisor}}

494 \newcommand{\@supervisor}[2][1]{%
495   \US@ifempty{#2}{\US@spvpresenttrue}%
496   \renewcommand*\US@spvalign{#1}%
497   \renewcommand\US@spv{#2}}
```

\cosupervisor

```
498 \newcommand{\cosupervisor}[1]{%
499   \US@ifempty{#1}{\US@cosvpvpresenttrue}%
500   \renewcommand\US@cospv{#1}}
```

`\US@spvset`

```

501 \newcommand{\US@spvset}{%
502   \ifUS@spvrows
503     \US@spvrows
504   \else
505     \US@spvcols
506   \fi}

507 \newcommand\US@spvrows{%
508   \edef\US@beginTab{\noexpand\begin{tabular}[t]{@{} \US@spvalign @{}}}%
509   \edef\US@endTab{\noexpand\end{tabular}}%
510   \US@spvmultfalse
511   \sbox{\US@tboxa}{%
512     \let\and\US@spvand%
513     \US@beginTab\US@spv\US@endTab}%
514   \US@cospvmultfalse
515   \sbox{\US@tboxb}{%
516     \let\and\US@cospvand%
517     \US@beginTab\US@cospv\US@endTab}%
518   \ifUS@spvpresent
519     \begin{tabular}[t]{@{}ll@{}}
520       \ifUS@spvmult\SupervisorsText\else\SupervisorText\fi
521       & \usebox{\US@tboxa}\\
522       \ifUS@cospvpresent%
523         \noalign{\vskip 1ex}
524         \ifUS@cospvmult\CoSupervisorsText\else\CoSupervisorText\fi
525         & \usebox{\US@tboxb}
526     \fi
527   \end{tabular}
528   \fi}

529 \newcommand\US@spvcols{%
530   \edef\US@beginTab{\noexpand\begin{tabular}[t]{@{} \US@spvalign @{}}}%
531   \edef\US@endTab{\noexpand\end{tabular}}%
532   \US@spvmultfalse
533   \sbox{\US@tboxa}{%
534     \let\and\US@spvand%
535     \US@beginTab\US@spv\US@endTab}%
536   \US@cospvmultfalse
537   \sbox{\US@tboxb}{%
538     \let\and\US@cospvand%
539     \US@beginTab\US@cospv\US@endTab}%
540   \ifUS@spvpresent
541     \US@beginTab
542     \ifUS@spvmult\SupervisorsText\else\SupervisorText\fi\\[1ex]
543     \usebox{\US@tboxa}
544   \US@endTab
545   \fi
546   \ifUS@cospvpresent
547     \hspace{2em}%
548     \US@beginTab
549     \ifUS@cospvmult\CoSupervisorsText\else\CoSupervisorText\fi\\[1ex]
550     \usebox{\US@tboxb}
551   \US@endTab
552   \fi}

```

```

553 \newcommand*\US@spvand}[1][Opt]{%
554     \global\US@spvmulttrue%
555     \[#1]%
556     \ignorespaces}

557 \newcommand*\US@cospvand}[1][Opt]{%
558     \global\US@cospvmulttrue%
559     \[#1]%
560     \ignorespaces}

561 \let\studyleader\supervisor
562 \let\promotor\supervisor %Backward compatibility

```

Date

```

563 \newcount\US@month
564 \newcount\US@year

565 \US@month=0
566 \US@year=\number\year
567 \def\US@date{\MonthName{\US@month}\ \number\US@year}

568 \newcommand{\setdate}[2]{%
569     \US@ifempty{#1}{\US@month=0}{\US@month=#1}%
570     \US@year=#2
571     \gdef\US@date{\MonthName{\US@month}\ \number\US@year}}

```

Sponsor

`\SetSponsor` Sponsors such as the NRF requests an acknowledgement on the title page.

```

572 \newcommand\US@sponsor{\vspace{2em}}
573 \newcommand\SetSponsor[1]{%
574     \renewcommand\US@sponsor{\vspace{2em}\par\parbox{\linewidth}{#1}}

```

4.7.2 Copyright page

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

`\CopyrightPage`

```

575 \newcommand\CopyrightPage[1][\CopyrightHolder]{%
576     %\clearpage
577     %\thispagestyle{empty}
578     %\mbox{}\par\vfill
579     %\begin{center}
580     %    \CopyrightTxt\ \copyright\ \number\US@year\ #1\
581     %    \CopyrightAnot
582     %\end{center}
583     %\vfill\mbox{}\par
584     %\clearpage
585     }

```

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

```

586 \newcommand\SetCopyrightHolder[1]{%
587     \renewcommand\CopyrightHolder{#1}}

```


`\SetCopyrightOff` Switch copyright output off.

```
588 \newif\ifUS@Copyright
589 \US@Copyrighttrue
590 \newcommand\SetCopyrightOff{%
591   \US@Copyrightfalse}
```

4.7.3 Declaration page

`\DeclarationSign` Optional commands to insert a signature and a signed date on declaration page.

```
\DeclarationDate 592 \let\US@DeclDate\@empty
593 \newcommand\DeclarationSign}[1]{}% Only for backward compatibility
594 \newcommand\DeclarationDate}[1]{\renewcommand\US@DeclDate{#1}}

595 \newcommand\US@putdecldate{%
596   \vspace{1cm}
597   \noindent
598   \begin{minipage}{.5\textwidth}
599     \noindent
600     \ifx\US@DeclDate\@empty\relax\else
601       \phantom{\Signat:}\hfill\makebox[Opt][c]{\US@DeclDate}\hfill\mbox{}\hspace*{-.5\baselineskip}
602     \fi
603     \Datetxt:\dotfill\mbox{}\par
604   \end{minipage}
605   \par}
```

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

```
606 \newcommand\DeclarationPage}[1][\ThesisDeclare]{%
607   \if@twocolumn
608     \@restonecoltrue\onecolumn
609   \else
610     \@restonecolfalse
611   \fi
612   \par
613   \thispagestyle{plain}%
614   \chapter*{\DeclarationName}%
615   \declaremark
616   \phantomsection
617   \addcontentsline{toc}{chapter}{\DeclarationName}%
618   #1\par
619   \US@putdecldate
620   \ifUS@Copyright
621     \mbox{}\par
622     \vfill
623     \vfill
624     \noindent\CopyrightTxt\ \copyright\ \number\US@year\ \CopyrightHolder\
625     \noindent\CopyrightAnot
626     \vfill
627     \mbox{}\par
628   \fi
629   \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.

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

4.7.5 Table of contents

```
664 \langle *cls \rangle
665 \renewcommand\tableofcontents{%
666   \if@twocolumn
667     \@restonecoltrue\onecolumn
668   \else
669     \@restonecolfalse
670   \fi
671   \chapter*{\contentsname}%

```

```

672 \tocmark
673 \phantomsection
674 \addcontentsline{toc}{chapter}{\contentsname}%
675 \@starttoc{toc}%
676 \if@restonecol\twocolumn\fi}
677 \end{cls}

```

4.7.6 List of figures

```

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

```

4.7.7 List of tables

```

694 \begin{cls}
695 \renewcommand\listoftables{%
696   \if@twocolumn
697     \@restonecoltrue\onecolumn
698   \else
699     \@restonecolfalse
700   \fi
701   \chapter*{\listtablename}%
702   \lotmark
703   \phantomsection
704   \addcontentsline{toc}{chapter}{\listtablename}%
705   \@starttoc{lot}%
706   \if@restonecol\twocolumn\fi}
707 \let\l@table\l@figure
708 \end{cls}

```

4.8 Back matter

4.8.1 Bibliography

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

```

709 \begin{cls}
710 \providecommand\bibsection{}%
711 \AtBeginDocument{%
712   \renewcommand{\bibsection}{%
713     \chapter*{\bibname}%
714     \bibmark

```

```

715     \phantomsection
716     \addcontentsline{toc}{chapter}{\bibname}}%
717   }
718 </cls>

```

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

```

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

```

\bibfont Command to change font sizes.

\bibpreamble The user can add stuff before the bibliography.

```

742 <*cls>
743 \let\bibfont\relax
744 \let\bibpreamble\relax
745 </cls>

```

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

```

746 <*cls>
747 \newcommand*\setbiblabel[1]{%
748   \renewcommand*\@biblabel[1]{#1}}
749 \setbiblabel{[1]\hfill}
750 </cls>

```

4.8.2 Index

theindex

```

751 <*cls>
752 \renewenvironment{theindex}
753   {\if@twocolumn
754    \@restonecolfalse
755    \else
756    \@restonecoltrue

```

```

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

```

4.9 Page markup

4.9.1 Headers and footers

`\US@headfnt` Font for running headers.

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

```

774 \newcommand*{\US@headfnt}[1]{\slshape\small#1}}
775 \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

```

776 \<cls>
777 \if@twoside
778     \def\ps@usthesis{%
779         \def\@evenhead{\US@numfnt{\thepage}\hfil\US@headfnt{\leftmark}}}%
780         \def\@oddhead{\US@headfnt{\rightmark}\hfil\US@numfnt{\thepage}}}%
781         \let\@oddfoot\@empty
782         \let\@evenfoot\@empty
783         \let\@mkboth\markboth
784         \def\chaptermark##1{%
785             \markboth{\MakeUppercase{
786                 \ifnum \c@secnumdepth > \m@ne
787                     \ifmainmatter
788                         \@chapapp\ thechapter. \ %
789                     \fi
790                 \fi
791                 ##1}}{}}%
792         \def\sectionmark##1{%
793             \markright{\MakeUppercase{
794                 \ifnum \c@secnumdepth > \z@
795                     \thesection. \ %
796                 \fi
797                 ##1}}}%

```

```

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

```

Redefine the plain page style.

```

828 \def\ps@plain{%
829 \let\@mkboth\@gobbletwo
830 \let\@oddhead\@empty
831 \let\@evenhead\@empty
832 \def\@oddfoot{\reset@font\hfil\US@numfnt{\thepage}\hfil}%
833 \let\@evenfoot\@oddfoot
834 }
835 \cls

```

Headers for use with memoir class

```

836 (*mem)
837 \makepagestyle{usthesis}
838 \setlength{\headwidth}{\textwidth}
839 \makerunningwidth{usthesis}{\headwidth}
840 \makeheadposition{usthesis}{flushright}{flushleft}{flushright}{flushleft}
841 \if@twoside
842 \makepsmarks{usthesis}{%
843 \let\@mkboth\markboth
844 \def\chaptermark##1{%
845 \markboth{\MakeUppercase{%
846 \ifnum \c@secnumdepth >\m@ne
847 \if@mainmatter

```

```

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

```

Change the plain page style

```

889 \setlength{\headwidth}{\textwidth}
890 \makerunningwidth{plain}{\headwidth}
891 \makeevenfoot{plain}{\US@numfnt{\thepage}}{}
892 \makeoddfoot{plain}{\US@numfnt{\thepage}}{}
893 \mem

```

The default page style.

```
894 \pagestyle{usthesis}
```

4.9.2 Chapter and section headings

```

895 \newcommand{\US@headfamily}{\normalfont\rmfamily}
896 \cls

```

```

897 \def\section{%
898     \@startsection{section}{1}%
899         {\z@}%
900         {-3.5ex plus -1ex minus -.2ex}%
901         {2.3ex plus .2ex}%
902         {\US@headfamily\Large\bfseries\raggedright}}
903 \</cls>
904 \*mem>
905 \setsecheadstyle{\US@headfamily\Large\bfseries\raggedright}
906 \</mem>
907 \*cls>
908 \def\subsection{%
909     \@startsection{subsection}{2}%
910         {\z@}%
911         {-3.25ex plus -1ex minus -.2ex}%
912         {1.5ex plus .2ex}%
913         {\US@headfamily\large\bfseries\raggedright}}
914 \</cls>
915 \*mem>
916 \setsubsecheadstyle{\US@headfamily\large\bfseries\raggedright}
917 \</mem>
918 \*cls>
919 \def\subsubsection{%
920     \@startsection{subsubsection}{3}%
921         {\z@}%
922         {-3.25ex plus -1ex minus -.2ex}%
923         {1.5ex plus .2ex}%
924         {\US@headfamily\normalsize\bfseries\raggedright}}
925 \</cls>
926 \*mem>
927 \setsubsubsecheadstyle{\US@headfamily\normalsize\bfseries\raggedright}
928 \</mem>
929 \*cls>
930 \def\paragraph{%
931     \@startsection{paragraph}{4}%
932         {\z@}%
933         {3.25ex plus 1ex minus .2ex}%
934         {-1em}%
935         {\US@headfamily\normalsize\bfseries}}
936 \</cls>
937 \*mem>
938 \setparaheadstyle{\US@headfamily\normalsize\bfseries}
939 \</mem>
940 \*cls>
941 \def\subparagraph{%
942     \@startsection{subparagraph}{5}%
943         {\parindent}%
944         {3.25ex plus 1ex minus .2ex}%
945         {-1em}%
946         {\US@headfamily\normalsize\bfseries}}
947 \</cls>
948 \*mem>
949 \setsubparaheadstyle{\US@headfamily\normalsize\bfseries}

```


950 \langle /mem \rangle

4.9.3 Floats and float pages

```

951 \setcounter{topnumber}{3}
952 \setcounter{bottomnumber}{2}
953 \setcounter{totalnumber}{4}
954 \setcounter{dbltopnumber}{3}

955 \renewcommand{\topfraction}{.85}
956 \renewcommand{\bottomfraction}{.7}
957 \renewcommand{\textfraction}{.1}
958 \renewcommand{\floatpagefraction}{.7}
959 \renewcommand{\dbltopfraction}{.85}
960 \renewcommand{\dblfloatpagefraction}{.7}

961 \setlength{\floatsep}{15pt plus 12pt}
962 \setlength{\textfloatsep}{\floatsep}
963 \setlength{\intextsep}{\floatsep}
964 \setlength{\dblfloatsep}{15pt plus 12pt}
965 \setlength{\dbltextfloatsep}{15pt plus 12pt}

966 \setlength{\@fptop}{0pt plus 1fil}
967 \setlength{\@fpbot}{0pt plus 1fil}
968 \setlength{\@fpsep}{8pt plus 1fil}
969 \setlength{\@dblftop}{0pt plus 1fil}
970 \setlength{\@dblpbot}{0pt plus 1fil}
971 \setlength{\@dblpsep}{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.

```

972  $\langle$ *cls $\rangle$ 
973 \setlength{\abovecaptionskip}{0.5\baselineskip}
974 \setlength{\belowcaptionskip}{0.5\baselineskip}

```

\backslash @makecaption Redefine the caption output.

```

975 \long\def\@makecaption#1#2{%
976   \vskip\abovecaptionskip
977   \sbox\@tempboxa{\small\bfseries #1:} #2}%
978   \ifdim \wd\@tempboxa >\hsize
979     \unhbox\@tempboxa\par
980   \else
981     \global \@minipagefalse
982     \hb@xt@\hsize{\hfil\box\@tempboxa\hfil}%
983   \fi
984   \vskip\belowcaptionskip}
985  $\langle$ /cls $\rangle$ 

```

Set parameter for memoir.

```

986  $\langle$ *mem $\rangle$ 
987 \captiondelim{: }
988 \captionnamefont{\small\bfseries}
989 \captiontitlefont{\small}

```

990 `\captionstyle{}`
 991 `\</mem>`

992 `\</cls | mem>`

The end of this package.

Change History

v0.1	Fix ifpdf error	1
General: Initial version	Move language settings to external files	1
v1.1	<code>\if@Subjectpresent</code> : Fix subject field in report option	32
v1.1a	<code>\ifUS@spvpresent</code> : Test if supervisor is defined	33
v1.1b		
General: Documentation update . . .	v4.1	
v2.0	<code>\DeclarationPage</code> : Add signature and sign date macros	36
General: Documentation update . . .	v4.2	
Page layout	<code>\faculty</code> : Add faculty	33
v2.1	v4.3	
General: Bug in PhD description . . .	<code>\faculty</code> : bugfix for faculty	33
Documentation update	v5.0	
<code>\supervisor</code> : Change for supervisor/colortbl bug	General: Remove option <code>\if@Final</code> . . .	24
<code>\ThesisDescript</code> : Move layout to title page	Remove option <code>\promotor</code>	14
<code>\TitlePage</code> : Change thesis description	Remove option <code>\DeclarationSign</code>	18
v2.2a	Remove option <code>\DeclarationSign</code> , <code>\US@DeclSign</code> , <code>\US@putdeclsign</code> for security reasons	36
General: Documentation update . . .	Remove option <code>PhDfinal</code>	4
v3.0	<code>\cosupervisor</code> : Added	33
General: Change twosided to symmetric layout	<code>\DeclarationPage</code> : Remove signature for security reasons	36
Documentation update	<code>\ifUS@cosvpresent</code> : New cosupervisor	33
<code>\CopyrightPage</code> : Remove copyright page	<code>\SetSponsor</code> : Add sponsor to titlepage	35
<code>\DeclarationPage</code> : Add copyright to Declaration page	<code>\TitlePage</code> : Remove address from title	31
<code>\SetCopyrightHolder</code> : Add	<code>\US@spvset</code> : Total rewrite	34
<code>\SetCopyrightOff</code> : Add		
v4.0		
General: Documentation update . . .		

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The UStitle Package*

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2005/05/17

Abstract

The UStitle package redefine the standard title page of the L^AT_EX classes to add a logo at the to and an address line below the author.

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*This document corresponds to UStitle v1.0, dated 2005/05/17.

1 User Interface

1.1 Loading the UStitle packages

The UStitle package is loaded in the document preamble, for example:

```
\usepackage[⟨key=value list⟩]{ustitle}
```

1.2 Options

The package input parameters are entered with key-values. The parameters, with default options and initial values are:

- `titlepage = [true], false`

This option corresponds with the global L^AT_EX class option `titlepage`. Specifies whether a new page should be started after the document title or not. The article class does not start a new page by default, while report and book do. The default initial setup is `titlepage = false`.

- `BW = [true], false`

The option specifies whether the black and white or the color version of the logo is used. The default initial setup is `BW = false`.

- `logo = none, plain, [top], stacked, left`

Selection of the specific logo at the top of the title page:

	BW=false	BW=true
plain	USlogo	USlogo-BW
top	USlogo-top	USlogo-BW-top
stacked	USlogo-stack	USlogo-BW-stack
left	USlogo-left	USlogo-BW-left

- `scale = [1.0]`

Scale factor when logo graphics file is imported. The default initial setup is `scale = 1.0`.

- `vspace = [0pt]`

The logo can be shifted up or downwards with the amount `vspace`.

1.3 User macros

Only one command, `\address`, is provided in addition to the standard L^AT_EX title page commands, `\title`, `\author` and `\date`. As an example:

```
\documentclass[12pt,a4paper,UKenglish]{article}
\usepackage{babel}
\usepackage[bw]{ustitle}

\title  {A Beautiful Document}
\author {Danie Els \and John Doe}
\address{Department of Mechanical Engineering,\\
        University of Stellenbosch,\\
        Private Bag X1, Matieland, 7602.}
\date   {2005/05/17}

\begin{document}
  \maketitle
  :
```

2 Implementation: UStitle

2.1 Identification

```
1 <*pkg>
2 \NeedsTeXFormat{LaTeX2e}[1999/12/01]
3 \ProvidesPackage{ustitle}[\USTitleFileDate\space
4                               \USTitleFileVersion\space
5                               Stellenbosh Title Page Package (DNJ ELS)]
```

2.2 External packages

The following packages are required by UStitle.

```
6 \RequirePackage{ifthen}
7 \RequirePackage{keyval}
```

We do not load the `graphicx` package, but requests its loading in the document preamble to prevent global option conflicts.

```
8 \AtBeginDocument{%
9   \ifpackageloaded{graphicx}{}{%
10     \PackageError{ustitle}{You must load the graphicx package}{}%
11   }}
```


2.3 Input options with keyval

2.3.1 Helper macros

```

\UST@true Define true and false test macros.
\UST@false 12 \def\UST@true{true}
13 \def\UST@false{false}

\UST@boolkey Define a boolean key \UST@boolkey[⟨default⟩]{⟨Key⟩}{⟨test opt⟩} that test if a
\UST@@boolkey key input is true or false.
14 \def\UST@boolkey{\@dblarg\UST@@boolkey}
15 \def\UST@@boolkey[#1]#2#3{%
16     \lowercase{\def\UST@tempa{#3}}%
17     \ifx\UST@tempa@empty
18         \let\UST@tempa\UST@true
19     \fi
20     \ifx\UST@tempa\UST@true
21     \else
22         \ifx\UST@tempa\UST@false
23         \else
24             \let\UST@tempa\relax
25         \fi
26     \fi
27     \ifx\UST@tempa\relax
28         \PackageWarning{ustitle}{%
29             Unexpected value ‘#3’\MessageBreak
30             of option ‘#1’ instead of\MessageBreak
31             ‘true’ or ‘false’}
32     \else
33         \csname UST@#2\UST@tempa\endcsname
34     \fi}

\UST@processKVoptions Process all key value options in the package parameter list, including global op-
tions.
35 \newcommand*{\UST@processKVoptions}[1]{%
36     \let\@tempa@empty
37     \@for\CurrentOption:=\@classoptionslist\do{%
38         \@ifundefined{KV@#1\CurrentOption}%
39         {%
40             {\edef\@tempa{\@tempa,\CurrentOption,}}}%
41     \edef\@tempa{%
42         \noexpand\setkeys{#1}{\@tempa\@optionlist{\@currname.\@currentt}}}%
43     \@tempa
44     \AtEndOfPackage{\let\@unprocessedoptions\relax}}%

```

2.3.2 Key value: titlepage

```

45 \newif\ifUST@titlepage
46 \UST@titlepagefalse
47 \define@key{UST@KeyOpt}{titlepage}[true]{%
48     \UST@boolkey{titlepage}{#1}}

```

2.3.3 Key value: BW (Black and White)

```

49 \newif\ifUST@BW
50 \UST@BWfalse

51 \define@key{UST@KeyOpt}{BW}[true]{
52   \UST@boolkey{BW}{#1}%
53   \UST@SetUSLogo}

2.3.4 Key value: scale

54 \define@key{UST@KeyOpt}{scale}[1.0]{%
55   \def\UST@logoscale{#1}}

2.3.5 Key value: vspace

56 \def\UST@vspace{0pt}%
57 \define@key{UST@KeyOpt}{vspace}[0pt]{%
58   \def\UST@vspace{#1}}

2.3.6 Key value: logo

59 \newcounter{UST@logocnt}

60 \newif\ifUST@logo
61 \UST@logotrue

62 \define@key{UST@KeyOpt}{logo}[top]{%
63   \ifthenelse{\equal{#1}{none}}{\UST@logofalse}{%
64     \ifthenelse{\equal{#1}{plain}}{\setcounter{UST@logocnt}{0}}{%
65       \ifthenelse{\equal{#1}{top}}{\setcounter{UST@logocnt}{1}}{%
66         \ifthenelse{\equal{#1}{stacked}}{\setcounter{UST@logocnt}{2}}{%
67           \ifthenelse{\equal{#1}{left}}{\setcounter{UST@logocnt}{3}}{%
68             \PackageWarning{ustitle}{logo='1' is invalid, default to 'top'}%
69             \setcounter{UST@logocnt}{0}}%
70           }}}}
71   \UST@SetUSLogo}

Logos are Scaled to give USLogo-top a width of 89.5mm
72 \def\UST@logoname{}%
73 \newlength\UST@logowdt

74 \newcommand\UST@SetUSLogo{%
75 \ifcase\c@UST@logocnt%..... 0 plain
76   \ifUST@BW
77     \def\UST@logoname{USlogo-BW}%
78   \else
79     \def\UST@logoname{USlogo}%
80   \fi
81   \setlength\UST@logowdt{15.08mm}%
82 \or%..... 1 top
83   \ifUST@BW
84     \def\UST@logoname{USlogo-BW-top}%
85   \else
86     \def\UST@logoname{USlogo-top}%
87   \fi
88   \setlength\UST@logowdt{89.50mm}%
89 \or%..... 2 stacked
90   \ifUST@BW
91     \def\UST@logoname{USlogo-BW-stack}%
92   \else
93     \def\UST@logoname{USlogo-stack}%

```

```

94     \fi
95     \setlength\UST@logowdt{32.08mm}%
96 \or%..... 3 left
97     \ifUST@BW
98         \def\UST@logoname{USlogo-BW-left}%
99     \else
100         \def\UST@logoname{USlogo-left}%
101     \fi
102     \setlength\UST@logowdt{108.60mm}%
103 \fi}

104 \newcommand\UST@putlogo{%
105     \ifUST@logo
106         {\vspace*{\UST@vspace}%
107         \centering%
108         \makebox[Opt][c]{%
109             \includegraphics[width=\UST@logoscale\UST@logowdt]{\UST@logoname}}\par
110         }%
111     \fi
112 }

```

2.3.7 Set and process options

Set the default keys

```

113 \setkeys{UST@KeyOpt}{%
114     titlepage = false,
115     logo,
116     BW = false,
117     scale}

```

Process the options

```

118 \UST@processKVOptions{UST@KeyOpt}

```

2.4 Title Page

```

\address
\@address 119 \let\@address\relax
120 \newcommand\address[1]{\def\@address{#1}}

\maketitle Redefine the standard LATEX \maketitle command to include a logo and
address.

121 \ifUST@titlepage
122     \renewcommand\maketitle{%
123         \begin{titlepage}%
124             \let\footnotesize\small
125             %\let\footnoterule\relax
126             \let \footnote \thanks
127             \null
128             \UST@putlogo
129             \vfil
130             \vskip 20mm
131             \begin{center}%
132                 {\LARGE \@title \par}%
133                 \vskip 10mm%
134                 {\large

```

```

135         \lineskip .75em%
136         \begin{tabular}[t]{c}%
137             \@author
138         \end{tabular}\par}%
139         \ifx\@address\relax\else
140             \vskip 10mm%
141             {\normalsize\@address\par}
142         \fi
143         \vskip 10mm%
144         {\large \@date \par}%           % Set date in \large size.
145     \end{center}\par
146     \vfil\null
147     \@thanks
148 %     \ifx\@address\relax
149 %         \vfil\null
150 %     \fi
151 \end{titlepage}%
152 \setcounter{footnote}{0}%
153 \global\let\thanks\relax
154 \global\let\maketitle\relax
155 \global\let\@thanks\@empty
156 \global\let\@author\@empty
157 \global\let\@date\@empty
158 \global\let\@title\@empty
159 \global\let\title\relax
160 \global\let\author\relax
161 \global\let\date\relax
162 \global\let\and\relax}
163 \else
164     \renewcommand\maketitle{%
165     \par
166     \begingroup
167         \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
168         \def\@makefnmark{\rlap{\@textsuperscript{\normalfont\@thefnmark}}}%
169         \long\def\@makefntext##1{\parindent 1em\noindent
170             \hb@xt@1.8em{%
171                 \hss\@textsuperscript{\normalfont\@thefnmark}}##1}%
172         \if@twocolumn
173         \ifnum \col@number=\@one
174             \@maketitle
175         \else
176             \twocolumn[\@maketitle]%
177         \fi
178         \else
179             \newpage
180             \global\@topnum\z@           % Prevents figures from going at top of page.
181             \@maketitle
182             \fi
183             \thispagestyle{plain}\@thanks
184     \endgroup
185     \setcounter{footnote}{0}%
186     \global\let\thanks\relax
187     \global\let\maketitle\relax
188     \global\let\@maketitle\relax

```

```

189 \global\let\@thanks\@empty
190 \global\let\@author\@empty
191 \global\let\@date\@empty
192 \global\let\@title\@empty
193 \global\let\title\relax
194 \global\let\author\relax
195 \global\let\date\relax
196 \global\let\and\relax}

```

`\@maketitle` Redefine the standard L^AT_EX `\@maketitle` command to include a logo and address.

```

197 \def\@maketitle{%
198 \newpage
199 \null
200 \begin{center}%
201 \let \footnote \thanks
202 \UST@putlogo
203 \vskip 15mm%
204 {\LARGE \@title \par}%
205 \vskip 5mm%
206 {\large
207 \lineskip .5em%
208 \begin{tabular}[t]{c}%
209 \@author
210 \end{tabular}\par}%
211 \ifx\@address\relax\else
212 \vskip 10mm%
213 {\normalsize\@address\par}
214 \fi
215 \vskip 5mm%
216 {\large \@date}%
217 \end{center}%
218 \par
219 \vskip 5mm}
220 \fi
221 \</pkg>

```

The end of this package.

Change History

v1.0
 General: Initial version 1



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usbib

Bibliographic style for University of Stellenbosch Theses and
Dissertations*

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2009/03/07

Abstract

usbib is a \LaTeX and \BibTeX package for the formatting of bibliographic references of theses and dissertations of the Department of Mechanical Engineering at the University of Stellenbosch.

This package is tailored towards citations and bibliographical formatting for the natural sciences and engineering.

*Version 1.0

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1 The **usbib** package

1.1 Bib_TE_X format files

The **usbib** package provides three bibliographic style files:

usmeg-a.bst¹: This is an author-year (Harvard) citation style based on the traditional bibliographic format of the Department of Mechanical Engineering of the University of Stellenbosch. The bibliographic entries are sorted alphabetically.

usmeg-n.bst: This is a numerical citation style based on the traditional bibliographic format of the Department of Mechanical Engineering of the US. The bibliographic entries are sorted in citation order.

ussagus.bst: This is an author-year (Harvard) citation style which attempts to conform to the SAGUS² style. The bibliographic entries are sorted alphabetically.

1.2 Loading the **usbib** package

The citation styles and Bib_TE_X formatting are loaded by including the following commands in your main document preamble and at the bibliography position:

```
\documentclass[<options>]{<LTEX class>}
...
\usepackage[<natbib opt>]{usbib}
\bibliographystyle{usmeg-a}% or usmeg-n or ussagus
\begin{document}
...
\bibliography{<BibTEX file>}
\end{document}
```

1.3 Options that can be added to **usbib**

usbib uses the **natbib** package internally and all the options are passed to **natbib**. Please read the **natbib** documentation if you need different formatting options (e.g. with **\bibpunct**).

authoryear: For author-year citations (default).

numbers: For numerical citations.

super: For superscripted numerical citations, as in *Nature*.

sort: Orders multiple citations into the sequence in which they appear in the list of references.

sort&compress: As **sort** but in addition multiple numerical citations are compressed if possible (as 3–6, 15).

longnamesfirst: Makes the first citation of any reference the equivalent of the starred variant (full author list) and subsequent citations normal (abbreviated list).

¹The format for examples in this document.

²Cilliers, L. (2002). *Referencing Methods: Harvard*. SAGUS, University of Stellenbosch.

sectionbib: Redefines `\thebibliography` to issue `\section*` instead of `\chapter*`; valid only for classes with a `\chapter` command; to be used with the `chapterbib` package.

1.4 Language support

The `usbib` package supports English and/or Afrikaans output. language definition files, `usbib.afr` and `usbib.eng`, are used by `usbib`. The user can edit this files if needed. The language setup of a document is set with the `babel` package. It is best to set language option global. For Afrikaans:

```
\documentclass[⟨class opts⟩,afrikaans]{⟨LATEX class⟩}
\usepackage{babel}
\usepackage[⟨natbib opt⟩]{usbib}
```

For a bilingual document, Afrikaans default:

```
\documentclass[⟨class opts⟩,UKenglish,afrikaans]{⟨LATEX class⟩}
⋮
```

or English default:

```
\documentclass[⟨class opts⟩,afrikaans,UKenglish]{⟨LATEX class⟩}
⋮
```

The last language declared is the main document language. See the `babel` documentation on how to switch between languages.

`\AorE` The command `\AorE{⟨Afrikaans teks⟩}{⟨English text⟩}` is provided that types the specific language text depending on whether Afrikaans was selected as the current active language or not.

2 Citation Commands

2.1 Basic commands

`usbib` uses the `natbib` package internally. It has two basic citation commands, `\citet` and `\citep` for *textual* and *parenthetical* citations, respectively. There also exist the starred versions `\citet*` and `\citep*` that print the full author list, and not just the abbreviated one. All of these may take one or two optional arguments to add some text before and after the citation.

<code>\citet{jon90}</code>	⇒ Jones <i>et al.</i> (1990)
<code>\citet[chap.~2]{jon90}</code>	⇒ Jones <i>et al.</i> (1990, chap. 2)
<code>\citep{jon90}</code>	⇒ (Jones <i>et al.</i> , 1990)
<code>\citep[chap.~2]{jon90}</code>	⇒ (Jones <i>et al.</i> , 1990, chap. 2)
<code>\citep[see][]{jon90}</code>	⇒ (see Jones <i>et al.</i> , 1990)
<code>\citep[see][chap.~2]{jon90}</code>	⇒ (see Jones <i>et al.</i> , 1990, chap. 2)
<code>\citet*{jon90}</code>	⇒ Jones, Baker and Williams (1990)
<code>\citep*{jon90}</code>	⇒ (Jones, Baker and Williams, 1990)

2.2 Multiple citations

Multiple citations may be made by including more than one citation key in the `\cite` command argument.

<code>\citet{jon90,jam93}</code>	\Rightarrow Jones <i>et al.</i> (1990); James <i>et al.</i> (1993)
<code>\citep{jon90,jam93}</code>	\Rightarrow (Jones <i>et al.</i> , 1990; James <i>et al.</i> , 1993)
<code>\citep{jon90,jon92}</code>	\Rightarrow (Jones <i>et al.</i> , 1990, 1992)
<code>\citep{jon91a,jon91b}</code>	\Rightarrow (Jones <i>et al.</i> , 1991 <i>a,b</i>)

2.3 Numerical mode

These examples are for author–year citation mode. In numerical mode, the results are different.

<code>\citet{jon90}</code>	\Rightarrow Jones <i>et al.</i> [21]
<code>\citet[chap.~2]{jon90}</code>	\Rightarrow Jones <i>et al.</i> [21, chap. 2]
<code>\citep{jon90}</code>	\Rightarrow [21]
<code>\citep[chap.~2]{jon90}</code>	\Rightarrow [21, chap. 2]
<code>\citep[see][]{jon90}</code>	\Rightarrow [see 21]
<code>\citep[see][chap.~2]{jon90}</code>	\Rightarrow [see 21, chap. 2]
<code>\citep{jon91a,jon91b}</code>	\Rightarrow [24, 32]

2.4 Suppressed parentheses

As an alternative form of citation, `\citealt` is the same as `\citet` but *without parentheses*. Similarly, `\citealp` is `\citep` without parentheses. Multiple references, notes, and the starred variants also exist.

<code>\citealt{jon90}</code>	\Rightarrow Jones <i>et al.</i> 1990
<code>\citealt*{jon90}</code>	\Rightarrow Jones, Baker and Williams 1990
<code>\citealp{jon90}</code>	\Rightarrow Jones <i>et al.</i> , 1990
<code>\citealp*{jon90}</code>	\Rightarrow Jones, Baker and Williams, 1990
<code>\citealp{jon90,jam91}</code>	\Rightarrow Jones <i>et al.</i> , 1990; James <i>et al.</i> , 1993
<code>\citealp[pg.~32]{jon90}</code>	\Rightarrow Jones <i>et al.</i> , 1990, pg. 32
<code>\citetext{priv.\ comm.}</code>	\Rightarrow (priv. comm.)

The `\citetext` command allows arbitrary text to be placed in the current citation parentheses. This may be used in combination with `\citealp`.

2.5 Partial citations

In author–year schemes, it is sometimes desirable to be able to refer to the authors without the year, or vice versa. This is provided with the extra commands

<code>\citeauthor{jon90}</code>	\Rightarrow Jones <i>et al.</i>
<code>\citeauthor*{jon90}</code>	\Rightarrow Jones, Baker and Williams
<code>\citeyear{jon90}</code>	\Rightarrow 1990
<code>\citeyearpar{jon90}</code>	\Rightarrow (1990)

2.6 Forcing upper cased names

If the first author’s name contains a *von* part, such as “della Robbia”, then `\citet{dRob98}` produces “della Robbia (1998)”, even at the beginning of a sentence. One can force the first letter to be in upper case with the command `\Citet` instead. Other upper case commands also exist.

when	<code>\citet{dRob98}</code>	\Rightarrow	della Robbia (1998)
then	<code>\Citet{dRob98}</code>	\Rightarrow	Della Robbia (1998)
	<code>\Citep{dRob98}</code>	\Rightarrow	(Della Robbia, 1998)
	<code>\Citealt{dRob98}</code>	\Rightarrow	Della Robbia 1998
	<code>\Citealp{dRob98}</code>	\Rightarrow	Della Robbia, 1998
	<code>\Citeauthor{dRob98}</code>	\Rightarrow	Della Robbia

These commands also exist in starred versions for full author names.

3 Additional User Formatting Commands

\BIBand: In the list of authors (or editors) the last author is normally separated from the rest of the authors with the word “and” or with an ampersand ($\&$). For example to use an “and” inside the bibliography and an ampersand in the citation, add to the document preamble:

```
\AtBeginDocument{%
  \renewcommand*{\BIBand}{%
    \InBibliography{\AorE{en}{and}}{\textit{\&}}}%
}
```

\bibsection: The list of references normally appears as a `\section*` or `\chapter*`, depending on the main class. If one wants to redesign one’s own heading, say as a numbered section with `\section`, then `\bibsection` may be redefined by the user accordingly. For example to add the line “Bibliography” to the Table of contents in a book or report class, add to the document preamble:

```
\renewcommand{\bibsection}{%
  \chapter*{\bibname%
    \markboth{\bibname}{\bibname}%
    \addcontentsline{toc}{chapter}{\bibname}}}
```

and for an article

```
\renewcommand{\bibsection}{%
  \section*{\refname%
    \markboth{\refname}{\refname}%
    \addcontentsline{toc}{section}{\refname}}}
```

\bibpreamble: A preamble appearing after the `\bibsection` heading may be inserted before the actual list of references by defining `\bibpreamble`. This will appear in the normal text font unless it contains font declarations. The `\bibfont` applies to the list of references, not to this preamble.

\bibfont: The list of references is normally printed in the same font size and style as the main body. However, it is possible to define `\bibfont` to be font commands that are in effect within the `thebibliography` environment after any preamble. For example,

```
\newcommand{\bibfont}{\small}
```

\bibnamefont: The format of an author’s surname in the reference list may be printed in a different font by redefining `\bibnamefont`. Define `\bibnamefont` to be a font declaration like `\scshape` or even a command taking arguments like `\textsc`. For example to obtain, e.g.: JONES:

`\renewcommand{\bibnamefont}[1]{\textsc{#1}}`

`\bibnamefont`: The format of an author's first names in the reference list may be may be printed in a different font by redefining `\bibnamefont`.

`\citenamfont`: Author names in citations may be printed in a different font by redefining `\citenamfont`.

`\citenumfont`: Numerical citations may be printed in a different font. Define `\citenumfont` to be a font declaration like `\itshape` or even a command taking arguments like `\textit`.

`\newcommand{\citenumfont}[1]{\textit{#1}}`

The above is better than `\itshape` since it automatically adds italic correction.

`\bibnumfmt`: The format of the numerical listing in the reference list may also be changed from the default [32] by redefining `\bibnumfmt`, for example

`\renewcommand{\bibnumfmt}[1]{\textbf{#1}:}`

to achieve **32**: instead.

`\bibhang`: The list of references for author–year styles uses a hanging indentation format: the first line of each reference is flush left, the following lines are set with an indentation from the left margin. This indentation is 1 em by default but may be changed by redefining (with `\setlength`) the length parameter `\bibhang`.

`\bibsep`: The vertical spacing between references in the list, whether author–year or numerical, is controlled by the length `\bibsep`. If this is set to 0 pt, there is no extra line spacing between references. The default spacing depends on the font size selected in `\documentclass`, and is almost a full blank line. Change this by redefining `\bibsep` with `\setlength` command.

4 BibTeX Entries

References to different types of publications contain different information; a reference to a journal article might include the volume and number of the journal, which is usually not meaningful for a book. Therefore, database entries of different types have different fields. For each entry type, the fields are divided into three classes:

required Omitting the field will produce a warning message and, rarely, a badly formatted bibliography entry. If the required information is not meaningful, you are using the wrong entry type. However, if the required information is meaningful but, say, already included is some other field, simply ignore the warning.

optional The field's information will be used if present, but can be omitted without causing any formatting problems. You should include the optional field if it will help the reader.

ignored The field is ignored. BibTeX ignores any field that is not required or optional, so you can include any fields you want in a `bib` file entry. It's a good idea to put all relevant information about a reference in its `bib` file entry—even information that may never appear in the bibliography. For

example, if you want to keep an abstract of a paper in a computer file, put it in an **abstract** field in the paper's **bib** file entry. The **bib** file is likely to be as good a place as any for the abstract, and it is possible to design a bibliography style for printing selected abstracts. Note: Misspelling a field name will result in its being ignored, so watch out for typos (especially for optional fields, since **BIB_TE_X** won't warn you when those are missing).

4.1 Entry Types

The following are the standard entry types, along with their required and optional fields, that are used by the standard bibliography styles. The fields within each class (required or optional) are listed in order of occurrence in the output, except that a few entry types may perturb the order slightly, depending on what fields are missing. The meanings of the individual fields are explained in the next section.

Article: An article from a journal or magazine.

Required fields: **author**, **title**, **journal**, **year**.

Optional fields: **volume**, **number**, **pages**, **month**, **note**.

Database entry:

```
@article{Lin:1997,
  author      = {Lin, X. and Ng, T. T.},
  title       = {A Three-Dimensional Discrete Element Model Using
                 Arrays of Ellipsoids},
  journal     = {G{\'e}otechnique},
  volume      = {47},
  number      = {2},
  year        = {1997},
  pages       = {319--329}}
```

Bibliography entry:

Lin, X. and Ng, T.T. (1997). A three-dimensional discrete element model using arrays of ellipsoids. *Géotechnique*, vol. 47, no. 2, pp. 319–329.

Book: A book with an explicit publisher.

Required fields: **author** or **editor**, **title**, **publisher**, **year**.

Optional fields: **volume** or **number**, **series**, **address**, **edition**, **month**, **note**, **isbn**.

Database entry:

```
@string{pub-CUP      = {Cambridge University Press}}
@string{pub-CUP:adr = {Cambridge, UK}}

@book{Press:1997,
  author      = {Press, W. H. and Teukolsky, S. A.
                 and Vetterling, W. T. and Flannery, B. P.},
  title       = {Numerical Recipes in {C}, The art of Scientific Computing},
  edition     = {Second},
  publisher    = {pub-CUP},
  address     = {pub-CUP:adr},
  year        = {1997}}
```

```
@book{Chapman:1961,
  author      = {Chapman, W.A.J.},
  title       = {Workshop Technology, {\rmfamily Part III}},
  publisher   = {Edward Arnold},
  address     = {London},
  year        = {1961},
  edition     = {2}}
```

Bibliography entry:

Press, W.H., Teukolsky, S.A., Vetterling, W.T. and Flannery, B.P. (1997). *Numerical Recipes in C, The art of Scientific Computing*. 2nd edn. Cambridge University Press, Cambridge, UK.

Chapman, W. (1961). *Workshop Technology, Part III*. 2nd edn. Edward Arnold, London.

Booklet: A work that is printed and bound, but without a named publisher or sponsoring institution.

Required field: title.

Optional fields: author, howpublished, address, month, year, note.

Database entry:

```
@booklet{Urban:1986,
  author      = {Urban, M.},
  title       = {An Introduction to {\LaTeX}},
  howpublished = {Prepared for the TRW Software Productivity Project;
                 reprinted with permission and distributed by TUG},
  year        = {1986}}
```

Bibliography entry:

Urban, M. (1986). An introduction to \LaTeX . Prepared for the TRW Software Productivity Project; reprinted with permission and distributed by TUG.

Conference: The same as Inproceedings.

Inbook: A part of a book, which may be a chapter (or section or whatever) and/or a range of pages.

Required fields: author or editor, title, chapter and/or pages, publisher, year.

Optional fields: volume or number, series, type, address, edition, month, note.

Database entry:

```
@inbook{Meirovitch:1970,
  author      = {Meirovitch, L.},
  title       = {Methods of Analytical Dynamics},
  publisher   = {McGraw-Hill},
  address     = {New York},
  year        = {1970},
  chapter     = {4}}
```

Bibliography entry:

Meirovitch, L. (1970). *Methods of Analytical Dynamics*, chap. 4. McGraw-Hill, New York.

Incollection: A part of a book having its own title.

Required fields: author, title, booktitle, publisher, year.

Optional fields: editor, volume or number, series, type, chapter, pages, address, edition, month, note.

Database entry:

```
@incollection{Immer:1978,
  author      = {Immer, J. R.},
  editor      = {Baumeister, T. and Avallone, E. A. and
                 Baumeister, III, T.},
  title       = {Industrial plants},
  booktitle   = {Marks' Standard Handbook for Mechanical Engineers},
  publisher   = {McGraw-Hill},
  address     = {New York},
  year        = {1978},
  edition     = {8},
  chapter     = {12}}
```

Bibliography entry:

Immer, J.R. (1978). Industrial plants. In: Baumeister, T., Avallone, E.A. and Baumeister, III, T. (eds.), *Marks' Standard Handbook for Mechanical Engineers*, 8th edn, chap. 12. McGraw-Hill, New York.

Inproceedings: An article in a conference proceedings.

Required fields: author, title, booktitle, year.

Optional fields: editor, volume or number, series, pages, address, month, organization, publisher, note.

Database entry:

```
@inproceedings{Luding:1998,
  author      = {Luding, S.},
  title       = {Collisions and contact between two particles},
  booktitle   = {Physics of Dry Granular Media},
  editor      = {Herrmann, H.J. and Hovi, J.-P. and Luding, S},
  publisher   = {Kluwer Academic Publishers},
  address     = {Dordrecht},
  year        = {1998},
  volume      = {350},
  series      = {NATO ASI Series E},
  pages       = {20--30},
  isbn       = {0-7923-5102-9}}
```

Bibliography entry:

Luding, S. (1998). Collisions and contact between two particles. In: Herrmann, H., Hovi, J.-P. and Luding, S. (eds.), *Physics of Dry Granular Media*, vol. 350 of *NATO ASI Series E*, pp. 20–30. Kluwer Academic Publishers, Dordrecht. ISBN 0-7923-5102-9.

Manual: Technical documentation.

Required fields: title.

Optional fields: author, organization, address, edition, month, year, note.

Database entry:

```
@manual{PFC2D:1999,
  key      = {PFC2D User Manual},
  title    = {Theory and Background, Version 2.0},
  organization = {Itasca},
  year     = {1999}}
```

```
@manual{GEC:1987,
  key      = {GEC},
  title    = {General Electric Fluid Flow Data Book},
  organization = {General Electric Co.},
  address  = {Schenectady, N.Y.},
  year     = {1987}}
```

Bibliography entry:

PFC^{2D} User Manual (1999). *Theory and Background, Version 2.0*. Itasca.

GEC (1987). *General Electric Fluid Flow Data Book*. General Electric Co., Schenectady, N.Y.

Mastersthesis: A Master's thesis.

Required fields: author, title, school, year.

Optional fields: type, address, month, note.

Database entry:

```
@mastersthesis{Coetzee:2000,
  author    = {Coetzee, C. J.},
  title     = {Forced Granular Flow},
  school    = {Mechanical Engineering, University of Stellenbosch},
  address   = {Stellenbosch, South Africa},
  year      = {2000}}
```

Bibliography entry:

Coetzee, C.J. (2000). *Forced Granular Flow*. Master's thesis, Mechanical Engineering, University of Stellenbosch, Stellenbosch, South Africa.

Misc: Use this type when nothing else fits.

Required fields: none.

Optional fields: author, title, howpublished, month, year, note.

Database entry:

```
@misc{Lourens:2001,
  author    = {Lourens, A.},
  year      = {2001},
  howpublished = {Personal Interview},
  month     = jan # {5},
  note      = {Stellenbosch}}

@misc{MSN:1999,
  key       = {MSN Gaming Zone {[Online]}},
  year      = {1999},
  howpublished = {Available at: \url{http://www.zone.com}, [2001, March 22]}}
```


Bibliography entry:

Lourens, A. (2001 January 5). Personal Interview. Stellenbosch.

MSN Gaming Zone [Online] (1999). Available at: <http://www.zone.com>, [2001, March 22].

Phdthesis: A PhD thesis (see masters thesis).

Required fields: author, title, school, year.

Optional fields: type, address, month, note.

Proceedings: The proceedings of a conference.

Required fields: title, year.

Optional fields: editor, volume or number, series, address, month, organization, publisher, note.

Database entry:

```
@proceedings{Herrmann:1998,
  editor    = {Herrmann, H. J. and Hovi, J.-P and Luding, S},
  title     = {Physics of Dry Granular Media},
  booktitle = {Physics of Dry Granular Media},
  publisher = {Kluwer Academic Publishers},
  address   = {Dordrecht},
  year      = {1998},
  volume    = {350},
  series    = {NATO ASI Series E},
  isbn      = {0-7923-5102-9}}
```

Bibliography entry:

Herrmann, H.J., Hovi, J.-P. and Luding, S. (eds.) (1998). *Physics of Dry Granular Media*, vol. 350 of *NATO ASI Series E*. Kluwer Academic Publishers, Dordrecht. ISBN 0-7923-5102-9.

Techreport: A report published by a school or other institution, usually numbered within a series.

Required fields: author, title, institution, year.

Optional fields: type, number, address, month, note.

Database entry:

```
@techreport{Bajura:1973,
  author    = {Bajura, R. A. and Le~Rose, V. F. and Williams, L. E.},
  title     = {Fluid Distribution in Combining, Dividing and
               Reverse Flow Manifolds},
  institution = {ASME},
  year      = {1973},
  type      = {Paper},
  number    = {73-PWR-1}}
```

Bibliography entry:

Bajura, R.A., Le Rose, V.F. and Williams, L.E. (1973). Fluid distribution in combining, dividing and reverse flow manifolds. Paper 73-PWR-1, ASME.

Unpublished: A document having an author and title, but not formally published.

Required fields: **author**, **title**, **note**.

Optional fields: **month**, **year**.

Database entry:

```
@unpublished{Els:2003,
  author      = {Els, D. N. J.},
  year        = {2003},
  month       = Feb,
  title       = {Gear Design},
  note        = {Class notes (Machine Design 314)},
  url         = {http://sun.ac.za/mecheng/MD314}}
```

Bibliography entry:

Els, D.N.J. (2003 February). Gear design. Class notes (Machine Design 314).
Available at: <http://sun.ac.za/mecheng/MD314>

In addition to the fields listed above, each entry type also has an optional **key** field, used in some styles for alphabetizing, for cross referencing, or for forming a `\bibitem` label. You should include a **key** field for any entry whose “author” information is missing; the “author” information is usually the **author** field, but for some entry types it can be the **editor** or even the **organization** field. Do not confuse the **key** field with the key that appears in the `\cite` command and at the beginning of the database entry.

With the `usbib` styles, each entry type also has an optional **url** field for online documents.

4.2 Fields

Below is a description of all fields recognized by the standard bibliography styles. An entry can also contain other fields, which are ignored by those styles.

address: Usually the address of the **publisher** or other type of institution. For small publishers you can help the reader by giving the complete address.

annote: An annotation. It is not used by the `usbib` bibliography style, but may be used by others that produce an annotated bibliography.

author: The name(s) of the author(s). The author names may be typed in either in the form `{First von Last}` or as `{von Last, Jr., First}`. The latter is the preferred and safest method.

In the `usbib` bibliography style the following formats are obtained:

<code>author={Smith, John Peter}</code>	\Rightarrow	Smith, J.P.
<code>author={Smith, J. P.}</code>	\Rightarrow	Smith, J.P.
<code>author={Smith, J P}</code>	\Rightarrow	Smith, J.P.

Note that initials must be separated with spaces. Double surnames (containing a “von” part) and compound names are handled correctly:

<code>author={de Witt, Nico-Ben}</code>	\Rightarrow	de Witt, N.-B.
<code>author={de Witt, N.-B.}</code>	\Rightarrow	de Witt, N.-B.

If the name contains a “Junior” or other addition:

author={Ford, Jr, Henry} ⇒ Ford, Jr, H.
author={{Ford Jr}, H.} ⇒ Ford Jr, H.
author={Ford, III, H.} ⇒ Ford, III, H.

Anything enclosed in braces will be treated as a single item:

author={{Harvy and Sons, Ltd}} ⇒ Harvy and Sons, Ltd

If the author field contains more than one name it must be separated with the word **and**. For example,

author={Smith, J. and Jones, H. and Doe, J.}
⇒ Smith, J., Jones, H. & Doe, J.

Anonymous authors can be inserted with

author={Anon.} ⇒ Anon.

booktitle: Title of a book, part of which is being cited. For book entries, use the **title** field instead.

chapter: A chapter (or section or whatever) number.

crossref The database key of the entry being cross referenced.

Database entry:

```
@inproceedings{Liffmann:1997,
  crossref    = {Behringer:1997},
  author      = {Liffmann, K. and Metcalfe, G. and Cleary, P. W.},
  title       = {Convection due to horizontal shaking},
  pages       = {405--408}}
```

```
@proceedings{Behringer:1997,
  editor      = {Behringer, R. P. and Jenkins, J. T. },
  title       = {Powders \& Grains 97},
  booktitle   = {Powders \& Grains 97},
  publisher   = {Balkema},
  address     = {Rotterdam},
  year        = {1997}}
```

Bibliography entry:

Liffmann, K., Metcalfe, G. and Cleary, P.W. (1997). Convection due to horizontal shaking. In: Behringer, R.P. and Jenkins, J.T. (eds.), *Powders & Grains 97*, pp. 405–408. Balkema, Rotterdam.

edition: The edition of a book—for example, “Second”. This should be an ordinal, and should have the first letter capitalized, as shown here; the standard styles convert to lower case when necessary.

In the **usbib** style the edition is formatted as:

edition = {2}, ⇒ 2nd edn.
edition = {2nd}, ⇒ 2nd edn.
edition = {Second}, ⇒ 2nd edn.

editor: Name(s) of editor(s). Same formatting as for authors. If there is also an **author** field, then the **editor** field gives the editor of the book or collection in which the reference appears.

howpublished: How something strange has been published. The first word should be capitalized.

institution: The sponsoring institution of a technical report.

ISBN: For the ISBN number in books. This is not standard but is supplied by `usbib`.

ISSN: For the ISSN number in periodicals. This is not standard but is supplied by `usbib`.

journal: A journal name. Abbreviations can be provided for frequently cited journals

```
@string{JFD={Journal of Fluid Dynamics}}
journal = JFD,
```

key: Used for alphabetizing, cross referencing, and creating a label when the “author” information is missing. This field should not be confused with the key that appears in the `\cite` command and at the beginning of the database entry.

month: The month in which the work was published or, for an unpublished work, in which it was written. You should use the standard three-letter abbreviation, `jan`, `feb`, ..., etc. for language specific bibliographies.

```
month = jan,
month = may # {~5}
```

Not that the `#` symbols concatenate the strings.

note: Any additional information that can help the reader. The first word should be capitalized.

It can also be used to include detail URL’s with the `\url` command, for example:

```
note = {Available: \url{http://learn.sun.ac.za}. [2003, Feb 1]}
```

number: The number of a journal, magazine, technical report, or of a work in a series. An issue of a journal or magazine is usually identified by its volume and number; the organization that issues a technical report usually gives it a number; and sometimes books are given numbers in a named series.

organization: The organization that sponsors a conference or that publishes a manual.

pages: One or more page numbers or range of numbers, such as `42--111` or `7,41,73--97` or `43+` (the ‘+’ in this last example indicates pages following that don’t form a simple range).

publisher: The publisher’s name.

school: The name of the school where a thesis was written.

series: The name of a series or set of books. When citing an entire book, the `title` field gives its title and an optional `series` field gives the name of a series or multi-volume set in which the book is published.

title: The work’s title. The capitalization of the title depends on the bibliography style. In `usbib` book titles are capitalized while articles are not. The text in the fields `title` and `booktitle` should be written in the capitalized form so that `BIBTEX` can change it to lower case as required. Word that are always to be capitalized, such as proper nouns, must be enclosed in braces. It is sufficient to enclose only the first letter that must be capitalized:

`title = {The {G}iotto Mission to Comet {H}alley}`

Care must be taken with specific language rules for non-English titles such German titles.

type: The type of a technical report—for example, “Research Note”.

url: The *universal resource locator*, or Internet address, for online documents. This is not standard but is supplied by `usbib`. The URL address is set in a typewriter font and often leads to line-breaking problems. It is advisable to load the `url` package of Donald Arseneau, which allows typewriter text to be broken at punctuation marks. The URL addresses are set with the `\url` command in this package, but if it is not loaded, then `\url` is defined to be `\texttt`, with no line breaks.

volume: The volume of a journal or multivolume book.

year: The year of publication or, for an unpublished work, the year it was written. Generally it should consist of four numerals, such as 1984, although the standard styles can handle any `year` whose last four nonpunctuation characters are numerals, such as ‘(about 1984)’ or 1980–1987



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1st April 2015

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University crest/coat of arms

The crest remains Stellenbosch University's timeless symbol. It symbolises the University's dignity, heritage, depth and preservation of academic excellence.

Please see the guidelines for usage:

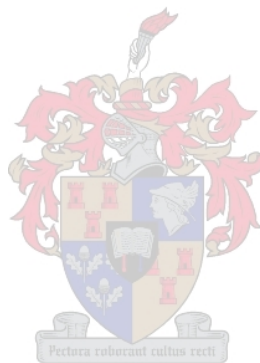
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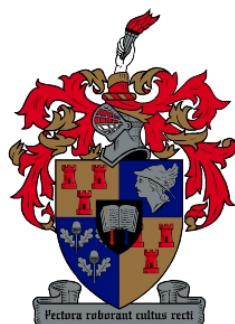


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The Corporate Logo

Together the logo and the logotype form Stellenbosch University's unique corporate signature that symbolises its vision for the future and its partnership strategy.

Please see the guidelines for usage:

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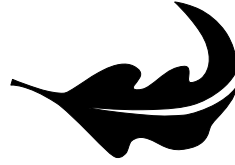
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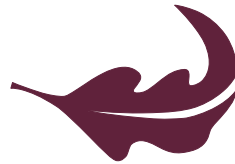
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