SU Statistics and Actuarial Science Template Guideline

David Rodwell
`rodwell@sun.ac.za`

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Contents

Introduction

This document serves to guide students in order to help setup the LaTeX template for either a thesis or research project according to the guidelines set out by the Department of Statistics and Actuarial Science at Stellenbosch University. Throughout this document it is assumed that the reader is somewhat familiar with basic LaTeX editing. The reader is welcome to email any suggestions or recommendations to the template at the email above.

Front Matter

The following code is used to define text that will be used in the following pages,

- Title page

- Plagarism declaration

Hence, it is essential that the student alters these values to their own requirements. If there the project is only written by one person then the second authors parameters should be kept default.

```
\title{Insert title of project here}                          % Title
\author{David Timothy Rodwell}                    % Author 1
\newcommand\authorsurname{Rodwell}                        % Author 1 Surname
\newcommand\authorinitials{D.T.}                         % Author 1 initials
\newcommand\authortwo{Robert Cronje}                     % Author 2
\newcommand\authortwosurname{Cronje}                     % Author 2 Surname
\newcommand\authortwoinitials{R.}                        % Author 2 initials
\newcommand\studentnumber{18965296}                      % Author 1 Student Number
\newcommand\studenttwonumber{19176899}                   % Author 2 Student Number
\newcommand\fulldegree{BComHons (Financial Risk Management)}   % Degree / module name
\newcommand\supervisor{W.J. Conradie}                    % Supervisor
\newcommand\supervisortitle{Prof.}                       % Supervisor Title (Mr., Mrs., Dr., Prof.)
\newcommand\degreeofconf{A}                              % Degree of Confidentiality
\newcommand\yeardate{2019}                       % Year Date
\newcommand\monthdate{December}                          % Month Date
\newcommand\daydate{23}                                  % Day Date
\newcommand\projecttype{Assignment}                      % Project Type (Thesis, Research assignment
    )
\modulefalse                                     %set to \moduletrue if module assignment
                                                    else \modulefalse for research assignment
```

Title Page

The following code is used to make the title page

```
\begin{titlepage}
  \centering
  \vspace{5cm}
  \LARGE\textbf{\thetitle}\\[1.0 cm]                      %Title of Thesis, if the title is long and
     causes the title page to overflow adjust the spacing at the bottom at the vspace commands
    \includegraphics[scale = 3]{UScrest-WM.jpg}\\[1.0 cm] % University Logo
  \LARGE \textbf{\theauthor}\\ \ifmodule  \textbf{\studentnumber}  \fi \vspace{2cm}
  \normalsize \projecttype \text{ }presented in the partial fulfilment\\
  of the requirement for the \ifmodule course \else degree of \fi \\
  \fulldegree \\
  \ifmodule \monthdate \,\, \yeardate \else at the University of Stellenbosch \fi \\
  \vspace{2cm}
  \textbf{\ifmodule Lecturer \else Supervisor \fi}: \supervisortitle \,\,\supervisor
  \vspace{2cm}
  \ifmodule \else
  \begin{flushleft}
  Degree of confidentiality: \degreeofconf \hspace{22em} \monthdate \,\, \yeardate
  \end{flushleft}
  \fi
\end{titlepage}
```

As can be seen within the code many of the predefined variables are used which allows the title page to be automatically generated for convenience. If the student wishes to edit the main text body of the title page (to perhaps align the contents with more of a informal research task), alterations should take place in the following code segment,

```
\normalsize \projecttype \,\,presented in the partial fulfilment\\
  of the requirement for the degree of \\
  \fulldegree \\
  at the University of Stellenbosch \\
```

Plagiarism Declaration

The following code generates the plagiarism declaration page which again uses some of the predefined variables. Students are recommended to not alter the text within declaration as it adheres to restrict regulatory requirements.

```
\chapter*{PLAGIARISM DECLARATION}

\begin{enumerate}
    \item Plagiarism is the use of ideas, material and other intellectual property of another's work and to
     present it as my own.
    \item I agree that plagiarism is a punishable offence because it constitutes theft.
    \item Accordingly, all quotations and contributions from any source whatsoever (including the internet)
     have been cited fully. I understand that the reproduction of text without quotation marks (even when
     the source is cited) is plagiarism.
    \item I also understand that direct translations are plagiarism.
    \item I declare that the work contained in this \MakeLowercase{\projecttype}, except otherwise stated,
     is my original work and that I have not previously (in its entirety or in part) submitted it for
     grading in this \MakeLowercase{\projecttype} or another \MakeLowercase{\projecttype}.
\end{enumerate}
\vspace{2cm}

\begin{table*}[htpb]
\centering
\begin{tabular}{|p{7.75cm}|p{7.75cm}|}
\hline
       &                 \\
       &                 \\
\studentnumber   &       \\
\hline
\large{Student number}   & \large{Signature}      \\
\hline
& \\
& \\
\authorinitials\,\, \authorsurname & \daydate \,\,\monthdate\, \yeardate  \\
\hline
Initials and surname & \large{Date} \\
\hline
\end{tabular}
\end{table*}
\vspace{2cm}
\begin{center}
    Copyright \textcopyright\, \yeardate \,\,Stellenbosch University\\
    All rights reserved
\end{center}
\addcontentsline{toc}{chapter}{PLAGIARISM DECLARATION}
\newpage
  }{%
```

Specifying Number of Authors

The following code below specifies inputs the number of authors into the template in the following manner,

```
% --------------Settings to set if paper has one or two authors-------------------

%\mycmd[][\author]                    One author
%\mycmd[\authortwo][\author]          Two authors
\mycmd[\authortwo][\author]
```

The first instance of Title Page, Plagiarism Declaration etc. corresponds to the one author setting, the second instance is the formatting in the case of two authors.

Acknowledgements and Abstract

The acknowledgement, abstract and opsomming (Afrikaans abstract) pages are generated using the following code. These code chunks can be removed entirely if need be.

```
%%%%%%%%%%%%%%%%%%%%% Insert Acknowledgements Here %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
\chapter*{Acknowledgements}

The Department of Statistics and Actuarial Science (the Department) wishes to acknowledge the University of
    Stellenbosch Business School (USB) for generously making available their research report template and
    guidelines. The USB template and guidelines have been adapted for the purposes of the Department.

\addcontentsline{toc}{chapter}{Acknowledgements}

\newpage

%%%%%%%%%%%%%%%%%%%%% Insert Your Abstract Here %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
\chapter*{Abstract}

Insert an abstract of not more than 500 words here\\\\
\textbf{Key words:}\\
Technical guidelines; Chapter outline; Examples

\addcontentsline{toc}{chapter}{Abstract}

\newpage


%%%%%%%%%%%%%%%%%%%%% Insert Your Opsomming Here %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
\chapter*{Opsomming}

Sluit 'n Afrikaanse opsomming in\\\\
\textbf{Sleutelwoorde:}\\
Tegniese vereistes, Voorgestelde Hoofstukke, Voorbeelde.

 \addcontentsline{toc}{chapter}{Opsomming}

\newpage
```

Table of Contents

The table of contents in this document is automatically generated through the following code,

```
\tableofcontents
\pagebreak
```

Additional Lists

The following pages are presented within the template,

- List of figures
- List of tables
- List of appendices
- List of abbreviations and/or acronyms

The first two items are generated automatically using the following code,

```
\listoffigures
 \addcontentsline{toc}{chapter}{List of figures}
\listoftables
\addcontentsline{toc}{chapter}{List of tables}
```

The list of appendices and abbreviations are required to be edited manually using familiar table functions as shown in the following section of code,

```
%%%%%%%%%%%%%%%%% Insert your list of appendices here %%%%%%%%%%%%%

\chapter*{List of appendices}

\begin{table}[htpb]
\begin{tabular}{p{3cm} p{7cm}}
APPENDIX A & QUESTIONNAIRE \\
APPENDIX B & USB STYLE SHEET
\end{tabular}
\end{table}
\addcontentsline{toc}{chapter}{List of appendices}
\newpage
%%%%%%%%%%%%%%%%% Insert your list of abbrevations and/or acryonyms %%%%%%%%%%%%%

\chapter*{List of abbreviations and/or acronyms}

\begin{table}[htpb]
\begin{tabular}{p{3cm} p{7cm}}
USB & University of Stellenbosch Business School  \\
Etc & Insert Acronym Here
\end{tabular}
\end{table}
\addcontentsline{toc}{chapter}{List of abbreviations and/or acronyms}
\newpage
```

Chapter Content

The actual contents of the various chapters can be added to the document using the following commands. These commands assume that a new `.tex` file is made in the `Chapters` folder with the relevant name.

```
%%%%%%%%%%%%%%%%%%%%%%%%%% Input your chapters here %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\input{Chapters/Chapter1.tex}
\input{Chapters/Chapter2.tex}
```

Bibliography

The bibliography in this template is automatically generated through the use of BibTeX. The particular style of referencing is governed by the `usmeg-a.bst` file which follows the Stellenbosch University Harvard style referencing. Acknowledgement must be given to Danie Els for compiling the this file.

The references within this template are stored in the `biblist.bib` file. The necessary citations for in-text referencing are controlled through the following commands,

```
 \citet{key} ==>>              Jones et al. (1990)
  \citet*{key} ==>>            Jones, Baker, and Smith (1990)
  \citep{key} ==>>             (Jones et al., 1990)
  \citep*{key} ==>>            (Jones, Baker, and Smith, 1990)
  \citep[chap. 2]{key} ==>>    (Jones et al., 1990, chap. 2)
  \citep[e.g.][]{key} ==>>     (e.g. Jones et al., 1990)
  \citep[e.g.][p. 32]{key} ==>> (e.g. Jones et al., p. 32)
  \citeauthor{key} ==>>        Jones et al.
  \citeauthor*{key} ==>>       Jones, Baker, and Smith
  \citeyear{key} ==>>          1990
```

The code which is responsible for displaying the bibliography is given below,

```
%%%%%%%%%%%%%%%%%%%%%%%%%% Bibliography %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
\bibliographystyle{usmeg-a}
\bibliography{biblist}
\addcontentsline{toc}{chapter}{REFERENCES}
\newpage
```

Appendices

Including appendices follows the same methodology as chapters, where the `input` command is used. However, in this case the `.tex` files must be generated and stored in the Appendices folder as shown in the code below,

```
%%%%%%%%%%%%%%%%%%%%%%%%%% Insert your appendix here %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
\appendix
\begin{appendices}
\input{Appendices/Questionnaire.tex}
\input{Appendices/USBStyleSheets.tex}
\end{appendices}
```

Back Matter

The following code contributes to the overall formatting of the document. It recommended that the code in this section is not altered in order to avoid complications. The purpose of some of the code segments is given as comments if the student wishes to further customise the template to their preference.

```
\setcounter{secnumdepth}{5} %Allows for subsubheadings
\renewcommand{\arraystretch}{1.5} %Makes line spacing 1.5cm
\makeatletter
\renewcommand\chapter{\if@openright\cleardoublepage\else\clearpage\fi %This chunk of code ensures that the
     chapters in the table of contents are captial letters
                    \thispagestyle{plain}
                    \global\@topnum\z@
                    \@afterindentfalse
                    \secdef\@chapter\@schapter}
\def\@chapter[#1]#2{\ifnum \c@secnumdepth >\m@ne
                        \if@mainmatter
                          \refstepcounter{chapter}
                          \typeout{\@chapapp\space\thechapter.}
                          \addcontentsline{toc}{chapter}%
                                    {\protect\numberline{\thechapter}\MakeUppercase{#1}}
                        \else
                          \addcontentsline{toc}{chapter}{\MakeUppercase{#1}}
                        \fi
                    \else
                      \addcontentsline{toc}{chapter}{\MakeUppercase{#1}}
                    \fi
                    \chaptermark{#1}
                    \addtocontents{lof}{\protect\addvspace{10\p@}}
                    \addtocontents{lot}{\protect\addvspace{10\p@}}
                    \if@twocolumn
                      \@topnewpage[\@makechapterhead{#2}]
                    \else
                      \@makechapterhead{#2}
                      \@afterheading
                    \fi}

\makeatother

\titleformat{\chapter}[display] %formats the headings within the document for further assitances refer to
     the titlesec documentation
{\bfseries\Large\filcenter}
{\Large\bfseries\MakeUppercase{\chaptertitlename} \thechapter}
{-0.01cm}
{\Large\MakeUppercase}

\titlespacing*{\chapter}
  {10pt}
  {-5em}
  {20pt}

\titleformat{name=\chapter,numberless}
  {\normalfont \Large \bfseries \center}{}{0.5em}{}

\titleformat{\section}
  {\large\bfseries \uppercase}{\thesection.}{1em}{}
\titleformat{\subsection}
  {\normalfont\normalsize\bfseries}{\thesubsection.}{1em}{}
\titleformat{\subsubsection}
  {\normalfont\normalsize\bfseries\itshape}{\thesubsubsection.}{1em}{}
```

```latex
\setmarginsrb{2.5cm}{2 cm}{2 cm}{2 cm}{1 cm}{1.5 cm}{0 cm}{1.5 cm} %Sets the correct margins to the
    document

\parindent 0mm %Corrects paragraph spacing
\parskip 2mm plus 1pt

\addto\captionsenglish{  %Changes table of contents name to ``Table of Contents" instead of ``Contents"
  \renewcommand{\contentsname}
    {Table of contents}
}

\addto{\captionsenglish}{\renewcommand{\bibname}{REFERENCES}} %Changes the bibliography name to ''
    References"

\makeatletter %Code assists with the variable declaration in the preamble
\let\thetitle\@title
\let\theauthor\@author
\let\thedate\@date
\makeatother


\fancyhf{} %Following code ensures that the page number is at the top middle
\renewcommand\headrulewidth{0pt}
\fancyhf[ch]{\thepage}
\pagenumbering{roman}
\pagestyle{fancy}

\assignpagestyle{\chapter}{fancy}
```