

# L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> Document Styles for the University of Southampton

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Edward Longman with prior work by Steve R. Gunn

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## 1 Quickstart

This guide assumes you have installed MiKTeX or TeX live distributions. It also requires having the program “make” for producing the templates again.

The folder labelled tex-mf should be installed in your local tex files source or whatever your tex distro uses.

The Templates have been built for the Department of Electronics and Computer Science in the Faculty of Engineering and Physical Science at the University of Southampton.

The basic settings for University, Faculty and School are explained in Section 6

If a user only wishes to change the file for their thesis it is probably easier to navigate to the class file labeled uosthesis and change the department and faculty naming there. This will be located in the subdirectory where you unzipped the files under tex/latex/uosdocs/

## 2 Description

These L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> document classes are designed to produce thesis, mini-thesis, progress, project, report, GDP report and GDP summary report documents which conformed to the University of Southampton guidelines of April 2001. They were updated in Jan 2019 to conform to changes in those guidelines. Specifically copy-right and authorship declaration changes. They are based on the document class `book`, but modify some of its layout decisions. An article class is also provided which is based on the document class `article`.

## 3 The DOCSTRIP modules

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

thesis	produce the <code>uosthesis</code> document class
minithesis	produce the <code>uosminithesis</code> document class
progress	produce the <code>uosprogress</code> document class
project	produce the <code>uosproject</code> document class
report	produce the <code>uosreport</code> document class
article	produce the <code>uosarticle</code> document class
gdp	produce the <code>uosgdp</code> document class
gdpsummary	produce the <code>uosgdpsummary</code> document class
testthesis	produce an example thesis
testminithesis	produce an example minithesis
testprogress	produce an example progress
testproject	produce an example project
testreport	produce an example report
testarticle	produce an example article
testgdp	produce an example GDP report
testgdpsummary	produce an example GDP summary report
introduction	produce an example introduction chapter
conclusions	produce an example conclusions chapter
appendix	produce an example appendix chapter
figure	produce an example figure file
definitions	produce an example definitions file
references	produce an example references file
bst	produce a bibliography style file
driver	produce a documentation driver file

## 4 Implementation

The checksum is to determine if there has been a truncation in the file during transmission over a network

The class has a custom option to define what colours should be used for links. This option defines `sotoncolour` to use UoS palette colours. Colour Code taken from <http://edshare.soton.ac.uk/10481>

All options are passed on to the `book` or `article` class.

```
1 <{*thesis | minithesis | progress | project | report | article | gdp | gdpsummary}>
```

```
\baseclass
```

```
2 %% ----- Class/Formating Adjustment -----
3 %% Adjust the book class to match the requirements
4 %% Set spacing, line and paragraph options
5 %% Set LaTeX builder options (work break penalties etc.)
6 <{*thesis | minithesis | progress | project | report | gdp | gdpsummary}>
7 \def\baseclass{book}
8 </thesis | minithesis | progress | project | report | gdp | gdpsummary>
9 <{*article}>
10 \def\baseclass{article}
11 </article>

12 \RequirePackage{xcolor}
13 \colorlet{linkBlue}{blue}
14 \colorlet{custGray}{gray}
15 \colorlet{chapRed}{red}
```

```

16 \DeclareOption{sotoncolour}{
17 \definecolor{sotonMarineBlue}{RGB}{1,67,89} % Soton marine blue (P 7469C)
18 \definecolor{sotonGrey}{RGB}{153,153,166} % Soton grey (P 443C)
19 \definecolor{sotonRed}{RGB}{171,18,16} % Soton Red (P 484C)
20 \colorlet{linkBlue}{sotonMarineBlue}
21 \colorlet{custGray}{sotonGrey}
22 \colorlet{chapRed}{sotonRed}
23 }
24 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{\baseclass}}

```

`\@checkoptions` Before we can process the options we must deal with a small problem. That is, we want to change the default options of the `book` or `article` class to `a4paper` and `11pt` or `12pt` but the macro `\ProcessOptions` used by the `book` or `article` class processes the options in the order specified in the file. Because `a4paper` is the first of the paper sizing options it will be overridden by any user defined option. But the same is not true of the font size option `11pt` or `12pt`. To remedy this we define a macro `\@checkoptions{<default>}{<option-list>}` which checks to see if any options in `<option-list>` have been specified and if not adds `<default>` to the option list.

```

25 \def\@checkoptions#1#2{
26   \edef\@curroptions{\@optionlist{\@currname.\@current}}
27   \@tempwafalse
28   \@tfor\@this:=#2\do{
29     \@expandtwoargs\in@{,\@this,}{,\@curroptions,}
30     \ifin@ \@tempswatruer \@break@tfor \fi
31     \let\@this\@empty
32     \if@tempswa \else \PassOptionsToClass{#1}{\baseclass}\fi
33 }

```

With this macro at our disposal we can continue to process the options

```

34 (*thesis | minithesis | progress | report | article | gdp | gdpsummary)
35 \@checkoptions{11pt}{10pt}{11pt}{12pt}
36 \thesis | minithesis | progress | report | article | gdp | gdpsummary)
37 (*project)
38 \@checkoptions{12pt}{10pt}{11pt}{12pt}
39 \project)
40 \PassOptionsToClass{a4paper}{\baseclass}
41 \ProcessOptions\relax

```

and load the `book` or `article` document class with `A4` as the default paper size.

```

42 \LoadClass{\baseclass}

```

## 4.1 Banner

`\bhrule` Provide a function to produce a banner on the output making the location of the current section simpler.

```

43 \newcommand\bhrule{\typeout{-----}}
44 \newcommand\btypeout[1]{\bhrule\typeout{\space #1}\bhrule}

```

## 4.2 Date

`\today` This macro uses the  $\TeX$  primitives `\month`, `\day` and `\year` to provide the date of the  $\LaTeX$ -run in a suitable format.

```
45 <*thesis>
46 \def\today{\ifcase\month\or
47   January\or February\or March\or April\or May\or June\or
48   July\or August\or September\or October\or November\or December\fi
49   \space \number\year}
50 </thesis>
```

## 5 Document Layout

### 5.1 Font

```
51 %% \usepackage[T1]{fontspec}
52 %   Set font for copyright statement body text
53 \usepackage[defaultsans]{droidsans}
54 %   Set a particular style of font for the thesis. A font that has smallcaps
55 \usepackage{mathpazo}
56 %%\usepackage[T1]{fontenc} %This may not be necessary for english only text
```

### 5.2 Spacing

Load the `setspace` package so that spacing can easily be set. The text in all three styles is set to one and a half spacing, paragraphs not indented, and a newline between paragraphs.

```
57 \usepackage{setspace}
58 <thesis | minithesis | progress | project | report | gdp | gdpsummary>\onehalfspacing
59 <article>\singlespacing
60 \setlength{\parindent}{0pt}
61 \setlength{\parskip}{2.0ex plus0.5ex minus0.2ex}
```

### 5.3 Margins

Load the `vmargin` package to setup the page dimensions.

```
62 \usepackage{vmargin}
63 <*thesis | minithesis | progress | project | report | gdp | gdpsummary>
64 \setmarginsrb          { 1.5in} % left margin
65                        { 0.6in} % top margin
66                        { 1.0in} % right margin
67                        { 0.8in} % bottom margin
68                        { 20pt}  % head height
69                        {0.25in} % head sep
70                        { 9pt}   % foot height
71                        { 0.3in} % foot sep
72 </thesis | minithesis | progress | project | report | gdp | gdpsummary>
73 <*article>
74 \setmarginsrb          { 0.8in} % left margin
75                        { 0.6in} % top margin
76                        { 0.8in} % right margin
77                        { 0.8in} % bottom margin
78                        { 20pt}  % head height
```

```

79 {0.25in} % head sep
80 { 9pt} % foot height
81 { 0.3in} % foot sep
82 </article>

```

## 5.4 Breaks

Control how pages and lines are broken.

```

83 \raggedbottom
84 \setlength{\topskip}{1\topskip \@plus 5\p@}
85 \doublehyphendemerits=10000 % No consecutive line hyphens.
86 \brokenpenalty=10000 % No broken words across columns/pages.
87 \widowpenalty=9999 % Almost no widows at bottom of page.
88 \clubpenalty=9999 % Almost no orphans at top of page.
89 \interfootnotelinepenalty=9999 % Almost never break footnotes.

```

## 5.5 Fancy Page Headers

Setup the the default fancy page headers with an underlined header containing chapter, name and page number.

```

90 \usepackage{fancyhdr}
91 % Help from https://texblog.org/2007/11/07/headerfooter-in-latex-with-fancyhdr/#comment-4783
92 \fancyhead[LE]{\textrm\thepage}
93 \fancyhead[LO]{\fancyplain{}{\textsl{\rightmark}}}}
94 \fancyhead[RE]{\fancyplain{}{\textsl{\leftmark}}}}
95 \fancyhead[RO]{\textrm\thepage}
96 \chead{}\lfoot{}\rfoot{}\cfoot{}
97 \pagestyle{fancy}
98 \fancypagestyle{plain}{
99   \fancyhf{}
100   \fancyhead[OR]{\thepage}
101   \renewcommand{\headrulewidth}{0pt}
102 }

```

<pre> \chaptermark \sectionmark \subsectionmark </pre>	<pre> Redefine chaptermark and sectionmark to set up the correct header name and produce a banner on the output making the location of messages simpler. The \btypeout command is for console logging where chapters start \chapapp expands to "Chapter" or "Appendix" </pre>
--------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

```

103 <thesis | minithesis | progress | project | report | gdp>
104 \renewcommand{\chaptermark}[1]{\btypeout{\thechapter.\space #1}\markboth{\chaptername\ \thechapter}{\thechapter}}
105 \renewcommand{\sectionmark}[1]{\markright{\thesection.\hspace{1em}#1}}
106 \renewcommand{\subsectionmark}[1]{}
107 </thesis | minithesis | progress | project | report | gdp>
108 <*article>
109 \renewcommand{\sectionmark}[1]{\btypeout{\thesection\hspace{1em}}\markboth{}{\thesection.\hspace{1em}#1}}
110 \renewcommand{\subsectionmark}[1]{}
111 \renewcommand{\subsubsectionmark}[1]{}
112 </article>
113 \gdpsummary\markboth{GDP Summary Report}{GDP Summary Report}

```

<pre> \cleardoublepage </pre>	<pre> Redefine cleardoublepage to remove headers from blank pages in twosided documents. </pre>
-------------------------------	-------------------------------------------------------------------------------------------------

```

114 \def\cleardoublepage{\clearpage\if@twoside \ifodd\c@page\else
115 \hbox{}
116 \thispagestyle{empty}
117 \newpage
118 \if@twocolumn\hbox{}\newpage\fi\fi\fi}

```

`\cleartoeven` Define `cleartoeven` to remove headers from blank pages and force to even page for appendix or index.

```

119 \def\cleartoeven{\clearpage\if@twoside \ifodd\c@page
120 \hbox{}
121 \thispagestyle{empty}
122 \newpage
123 \if@twocolumn\hbox{}\newpage\fi\fi\fi}

```

## 5.6 Mathematics

Load the `amsmath` packages, so we can do some serious math, and setup the theorem environments.

```

124 %% ----- Figure/Table/Equation/Listing Styling -----
125 %% Set the styling for non text elements of the document
126 \usepackage{amsmath,amsfonts,amssymb,amscd,amsthm,xspace}
127 \theoremstyle{plain}
128 \newtheorem{example}{Example}[chapter]
129 \newtheorem{theorem}{Theorem}[chapter]
130 \newtheorem{lemma}{Lemma}[chapter]
131 \newtheorem{proposition}{Proposition}[chapter]
132 \newtheorem{axiom}{Axiom}[chapter]
133 \newtheorem{definition}{Definition}[chapter]
134 \newtheorem{remark}{Remark}[chapter]
135 \newtheorem{corollary}{Corollary}[chapter]
136 \newtheorem{lemma}{Lemma}[chapter]
137 \newtheorem{proposition}{Proposition}[chapter]
138 \newtheorem{axiom}{Axiom}[chapter]
139 \newtheorem{definition}{Definition}[chapter]
140 \newtheorem{remark}{Remark}[chapter]
141 \newtheorem{corollary}{Corollary}[chapter]
142 \newtheorem{lemma}{Lemma}[chapter]
143 \newtheorem{proposition}{Proposition}[chapter]

```

## 5.7 Captions

`\fref` Load the `caption` package to improve formatting of captions, and provide short  
`\tref` referencing commands.

```

\eref 144 \usepackage[justification=centerlast,font=small,labelfont=sc]{caption}
\cref 145 \setlength{\captionmargin}{20pt}
\sref 146 \newcommand{\fref}[1]{Figure~\ref{#1}}
\aref 147 \newcommand{\tref}[1]{Table~\ref{#1}}
148 \newcommand{\eref}[1]{Equation~\ref{#1}}
149 \newcommand{\cref}[1]{Chapter~\ref{#1}}
150 \newcommand{\sref}[1]{Section~\ref{#1}}
151 \newcommand{\aref}[1]{Appendix~\ref{#1}}

```

## 5.8 Float Placement

`\topfraction` Preventing figures from appearing on a page by themselves. L<sup>A</sup>T<sub>E</sub>X's figure placement algorithm is quite biased in favour of putting figures on a page by themselves, instead of on the top of a page with some text below it. Fortunately, the parameters of the algorithm can be changed. The main problem is that L<sup>A</sup>T<sub>E</sub>X per default only allows a part of the top of a text-page (70%) to contain figures, and requires at least 20% of a page to be text when text and figures share a page. These parameters should be set to more reasonable values, for example 85% and 10%.

```
152 \renewcommand{\topfraction}{0.85}
153 \renewcommand{\bottomfraction}{.85}
154 \renewcommand{\textfraction}{0.1}
155 \renewcommand{\dbltopfraction}{.85}
```

`\floatpagefraction` This helps, but sometimes L<sup>A</sup>T<sub>E</sub>X puts a figure on a page by itself, although it would fit perfectly well on the top of a page. This happens when the figure will not fit on the page where it was defined. L<sup>A</sup>T<sub>E</sub>X then attempts to put it on a figures-only page before it attempts to put it at the top of the next page. A page may contain figures alone if the figure(s) use at least half the page. To prevent half-empty pages this limit should probably be increased to around 75%.

```
156 \renewcommand{\floatpagefraction}{0.75}
157 \renewcommand{\dblfloatpagefraction}{.75}
```

Be careful not to make `floatpagefraction` larger than `topfraction`, then you risk to produce a figure that can neither go on the top of a text page, nor on a page by itself. If that happens, the figure and all later figures will be postponed until next time a `clearpage` is executed (typically at the end of a chapter or the end of the document). This will also happen if a figure is too large to fit on a page.

```
158 \setcounter{topnumber}{9}
159 \setcounter{bottomnumber}{9}
160 \setcounter{totalnumber}{20}
161 \setcounter{dbltopnumber}{9}
```

## 5.9 Graphics

Load the `graphicx` package, so we can include pictures easily. Load the `epstopdf`, so that eps files are automatically converted to pdf when pdfL<sup>A</sup>T<sub>E</sub>X is used. This requires a version of *epstopdf* to be installed on you system. You can find a windows version at

<http://www.ctan.org/tex-archive/support/epstopdf/epstopdf.exe>.

```
162 \usepackage{graphicx}
163 \usepackage{epstopdf}
```

## 5.10 Subfigures and subtables

Load the `subcaption` package, so we can include subfigures easily.

```
164 \usepackage[] {subcaption}
165 \usepackage{booktabs}
166 \usepackage{rotating}
```

## 5.11 Listings

Load the listings package, so we can include listings easily.

```

167 \usepackage{listings}
168 % \usepackage{lstpatch}
169 \lstset{captionpos=b,
170         frame=tb,
171         basicstyle=\scriptsize\ttfamily,
172         showstringspaces=false,
173         keepspaces=true}
174 \lstdefinestyle{matlab} {
175     language=Matlab,
176     keywordstyle=\color{blue},
177     commentstyle=\color[rgb]{0.13,0.55,0.13}\em,
178     stringstyle=\color[rgb]{0.7,0,0} }

```

## 5.12 Hyperlinks

Load the hyperref package to provide hyperlinks in pdf and dvi documents.

```

179 \usepackage[pdfpagemode={UseOutlines},bookmarks=true,bookmarksopen=true,
180     bookmarksopenlevel=0,bookmarksnumbered=true,hypertextnames=false,
181     colorlinks,linkcolor={linkBlue},citecolor={linkBlue},urlcolor={linkBlue},
182     pdfstartview={FitV},unicode,breaklinks=true]{hyperref}
183 \pdfstringdefDisableCommands{
184     \let\\\space
185 }

```

## 6 Internal Names

<p><code>\supervisor</code></p> <p><code>\examiner</code></p> <p><code>\degree</code></p> <p><code>\authors</code></p> <p><code>\addresses</code></p> <p><code>\university</code></p> <p><code>\UNIVERSITY</code></p> <p><code>\department</code></p> <p><code>\DEPARTMENT</code></p> <p><code>\group</code></p> <p><code>\GROUP</code></p> <p><code>\faculty</code></p> <p><code>\FACULTY</code></p> <p><code>\subject</code></p> <p><code>\keywords</code></p>	<p>The various elements of the documents are defined as control sequences to make it easy to customize this style for other parts of the University. When the command is run the other terms are defined by the args.</p> <p>The examiner and supervisor commands can be pluralised so that it can print "Supervisors:". This is with an optional argument. [s] which will add and "s" to the word "Supervisor"</p> <p>186 %% ----- Organisational Structure -----</p> <p>187 \newcommand*\supervisor{2} [] {\def\supname{#2}\def\supplural{#1}}</p> <p>188 \newcommand*\examiner{2} [] {\def\examname{#2}\def\examplural{#1}}</p> <p>189 \newcommand*\degree{1} {\def\degreename{#1}}</p> <p>190 \newcommand*\authors{1} {\def\authornames{#1}}</p> <p>191 \newcommand*\qualifications{1} {\def\qual{#1}}</p> <p>192 \newcommand*\addresses{1} {\def\addressnames{#1}}</p> <p>193 \newcommand*\doi{1} {\def\doicode{#1}}</p> <p>194 \newcommand*\volume{2} {\def\volno{#1}\def\volof{#2}}</p> <p>195 \newcommand*\orcidid{1} {\def\orcid{#1}}</p> <p>196 \newcommand*\university{1} {\def\univname{#1}}</p> <p>197 \newcommand*\UNIVERSITY{1} {\def\UNIVNAME{#1}}</p> <p>198 \newcommand*\department{1} {\def\deptname{#1}}</p> <p>199 \newcommand*\DEPARTMENT{1} {\def\DEPTNAME{#1}}</p> <p>200 \newcommand*\group{1} {\def\groupname{#1}}</p> <p>201 \newcommand*\GROUP{1} {\def\GROUPNAME{#1}}</p>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



```

202 \newcommand*{\faculty}[1]{\def\facname{#1}}
203 \newcommand*{\FACULTY}[1]{\def\FACNAME{#1}}
204 \newcommand*{\subject}[1]{\def\subjectname{#1}}
205 \newcommand*{\keywords}[1]{\def\keywordnames{#1}}

\supname The internal names of the elements are set to defaults appropriate to the Depart-
\examname ment of Electronics and Computer Science.
\degreename By running these commands at the top of your tex file it will overwrite the
\authornames defaults.
\univname 206 %% ----- Organisational Structure -----
\UNIVNAME 207 \doi{}
\deptname 208 \supervisor {}
\DEPTNAME 209 \examiner {}
\groupname 210 \degree {}
\GROUPNAME 211 \authors {}
\facname 212 \qualifications{}
\FACNAME 213 \orcidid{}
\volume{}{}
\subjectname 214 \volume{}{}
\keywordnames 215 \university {\texorpdfstring{\href{http://www.southampton.ac.uk}
216 {University of Southampton}}
217 {University of Southampton}}
218 \UNIVERSITY {\MakeUppercase{\univname}}
219 \department {School of Electronics and Computer Science}
220 \DEPARTMENT {\MakeUppercase{\deptname}}
221 \group {Cyber Physical Systems Group}
222 \GROUP {\MakeUppercase{\groupname}}
223 \faculty {Faculty of Engineering and Physical Science}
224 \FACULTY {\MakeUppercase{\facname}}
225 \addresses {}
226 \subject {}
227 \keywords {}

```

## 7 Special Pages

### 7.1 Title Page

```

\maketitle Setup an appropriate title page and pdf strings if we are using pdfLATEX.
The
global
let
@title
@empty has been removed
Possibly the relax statement also needs to be removed
228 <{*thesis | minithesis | progress | project | report | gdp | gdpsummary}>
229 % Start by Adding meta data to the produced document
230 \usepackage{titling}
231 \AtBeginDocument{
232 \hypersetup{pdftitle={\thetitle}}
233 \hypersetup{pdfsubject={\subjectname}}
234 \hypersetup{pdfauthor={\authornames}}
235 \hypersetup{pdfkeywords={\keywordnames}}
236 }

```

```

237 %    Define the title page layout
238 \renewcommand\maketitle{
239   \btypeout{Title Page}
240   \thispagestyle{empty}
241   \begin{titlepage}
242     \let\footnotesize\small
243     \let\footnoterule\relax
244     \let \footnote \thanks
245     \setcounter{footnote}{0}
246     \null\vfil
247     \vskip 60\p@
248     \begin{center}
249       \setlength{\parskip}{0pt}
250       {\scshape\LARGE\textbf{\univname}\par}
251       %% TODO: Change all the descriptions to italic like the Thesis one
252 <thesis | minithesis | progress | project | gdp | gdpsummary>
253       \bigskip
254       {\large \facname \par}
255 </thesis | minithesis | progress | project | gdp | gdpsummary>
256 <*thesis | minithesis | progress | project>
257       {\large \deptname \par}
258 </thesis | minithesis | progress | project>
259       \vfill
260 <*minithesis>
261       {\large A mini-thesis submitted for transfer from}
262       {\large MPhil to PhD \par}
263 </minithesis>
264 <*progress>
265       {\large A progress report submitted for continuation}
266       {\large towards a PhD \par}
267 </progress>
268 <*project>
269       {\large A project report submitted for the}
270       {\large award of \par \degreename \par}
271 </project>
272 <*gdp>
273       {\large A group design project report submitted for}
274       {\large the award of \par \degreename \par}
275 </gdp>
276 <*gdpsummary>
277       {\large A group design project summary report submitted}
278       {\large for the award of \par \degreename \par}
279 </gdpsummary>
280 <*minithesis | progress | project>
281       \vfill
282       {\normalsize Supervisor\supplural: \supname \par}
283       {\normalsize Examiner\examplural: \examname \par}
284       \vfill
285       \hspace{6mm}\parbox[t][51mm][s]{89mm}{
286         \center
287         \vfill
288         {\large \bf \@title \par}
289         \vfill
290         {\normalsize \textit{by} \textbf{authornames \par}

```

```

291         \vfill
292         {\normalsize \@date \par}
293         \vfill
294     }
295     \parbox[t][95mm][s]{89mm}{
296 \minithesis | progress | project
297 *gdp | gdpsummary
298     \vfill
299     {\normalsize \textit{by} \textbf{authornames \par}
300     \bigskip
301     {\normalsize Supervisor\supplural: \supname \par}
302     {\normalsize Examiner\examplural: \examname \par}
303     \vfill
304     \hspace{6mm}\parbox[t][51mm][s]{89mm}{
305         \center
306         \vfill
307         {\large \bf \@title \par}
308         \vfill
309         {\normalsize \@date \par}
310         \vfill
311     }
312     \parbox[t][95mm][s]{89mm}{
313 \gdp | gdpsummary
314 *thesis | report
315     {\huge \bf \@title \par
316 }
317     \ifthenelse{equal{\doicode}{}}
318     {}
319     {\smallskip DOI: \href{http://orcid.org/\doicode}{\doicode}\par}
320     \ifthenelse{equal{\volno}{}}
321     {}
322     {\smallskip Volume \volno{} of \volof}
323     \vfill
324     {\LARGE \textit{by} \par}
325     \smallskip
326     {\LARGE \textbf{authornames
327     \ifthenelse{equal{\quals}{}}
328     {}
329     {\par\LARGE
330     \quals}
331     \par}
332     \ifthenelse{equal{\orcid}{}}
333     {}
334     {\smallskip
335     ORCID: \href{http://orcid.org/\orcid}{\orcid}}
336
337     \vfill
338     *thesis
339     {\large \textit{A thesis for the degree of} \par}
340     {\large \textit{Doctor of Philosophy} \par}
341 \thesis
342 *report     {\large \textit{Technical Report} \par}
343     \bigskip
344 \bigskip

```

```

345     {\large \facname \par}
346     {\large \deptname \par}
347 </report>
348     \bigskip
349     \bigskip
350     \bigskip
351     {\Large \@date \par}
352     \bigskip
353 </thesis | report>
354     \end{center}
355     \par
356     \@thanks
357     \vfil\null
358 \end{titlepage}
359 \setcounter{footnote}{0}%
360 \global\let\thanks\relax
361 \global\let\maketitle\relax
362 \global\let\@thanks\@empty
363 \global\let\@author\@empty
364 \global\let\@date\@empty
365 \global\let\title\relax
366 \global\let\author\relax
367 \global\let\date\relax
368 \global\let\and\relax
369 <*thesis | minithesis | progress | project | report>
370 \cleardoublepage
371 </thesis | minithesis | progress | project | report>
372 }
373 </thesis | minithesis | progress | project | report | gdp | gdpsummary>
374 <*article>
375 \if@titlepage
376 \renewcommand\maketitle{
377 \btypeout{Title Page}
378 \markboth{\authornames}{\@title}
379 \begin{titlepage}
380 \thispagestyle{empty}
381 \let\footnotesize\small
382 \let\footnoterule\relax
383 \let \footnote \thanks
384 \null\vfil
385 \vskip 60\p@
386 \begin{center}
387 {\LARGE \@title \par}
388 \vskip 3em
389 {\large \lineskip .75em
390 \begin{tabular}[t]{c} \authornames \end{tabular}
391 \par}
392 \vskip 1em
393 {\large \lineskip .5em
394 \begin{tabular}[t]{c} \addressnames \end{tabular}
395 \par}
396 \vskip 1.5em
397 {\large \@date \par}
398 \if\keywordnames

```

```

399     \else
400         \quotation
401         \vskip 1.5em
402         {\noindent \normalsize
403             \textbf{Keywords:}
404             \textit{\keywordnames}
405         \par}
406         \endquotation
407     \fi
408 \end{center}
409 \par
410 \@thanks
411 \vfil\null
412 \end{titlepage}
413 \setcounter{footnote}{0}
414 \global\let\thanks\relax
415 \global\let\maketitle\relax
416 \global\let\@maketitle\relax
417 \global\let\@thanks\@empty
418 \global\let\@author\@empty
419 \global\let\@date\@empty
420 \global\let\title\relax
421 \global\let\author\relax
422 \global\let\date\relax
423 \global\let\and\relax
424 }
425 \else
426 \renewcommand\maketitle{
427     \btypeout{Title Page}
428     \markboth{\authornames}{\@title}
429     \thispagestyle{empty}
430     \par
431     \begingroup
432     \renewcommand\thefootnote{\@fnsymbol\c@footnote}
433     \def\@makefnmark{
434         \rlap{\@textsuperscript{\normalfont\@thefnmark}}
435     }
436     \long\def\@makefnmark##1{
437         \parindent 1em\noindent \hb@xt@1.8em
438         {\hss\@textsuperscript{\normalfont\@thefnmark}}##1
439     }
440     \if@twocolumn
441         \ifnum \col@number=\@ne
442             \@maketitle
443         \else
444             \twocolumn[\@maketitle]%
445         \fi
446     \else
447         \newpage
448         % Prevent figures from going at top of page.
449         \global\@topnum\z@
450         \@maketitle
451     \fi
452     \thispagestyle{plain}\@thanks

```

```

453 \endgroup
454 \setcounter{footnote}{0}%
455 \global\let\thanks\relax
456 \global\let\maketitle\relax
457 \global\let\@maketitle\relax
458 \global\let\@thanks\@empty
459 \global\let\@author\@empty
460 \global\let\@date\@empty
461 \global\let\title\relax
462 \global\let\author\relax
463 \global\let\date\relax
464 \global\let\and\relax
465 }
466 \def\@maketitle{
467 \newpage
468 \null
469 \vskip 2em
470 \begin{center}
471 \let \footnote \thanks
472 {\LARGE \@title \par}
473 \vskip 1.5em
474 {\large \lineskip .5em
475 \begin{tabular}[t]{c} \authornames \end{tabular}
476 \par}
477 \vskip 0.7em
478 {\large \lineskip .5em
479 \begin{tabular}[t]{c} \addressnames \end{tabular}
480 \par}
481 \vskip 1em
482 {\large \@date}
483 \end{center}
484 \par
485 \vskip 1.5em
486 }
487 \fi
488 \end{article}

```

## 7.2 Abstract Page

```

\abstract Setup an appropriate abstract page.
489 (*thesis | minithesis | progress | project | report | gdp)
490 \newenvironment{abstract}
491 {
492 \btypeout{Abstract Page}
493 \thispagestyle{empty}
494 \null\vfil
495 \begin{center}
496 \setlength{\parskip}{0pt}
497 {\textsc\normalsize \univname \par}
498 \bigskip
499 {\underline{Abstract} \par}
500 (*thesis | minithesis | progress | project | report)
501 \bigskip

```

```

502     {\textsc\normalsize \facname \par}
503     {\textsc\normalsize \deptname \par}
504 </thesis | minithesis | progress | project | report>
505     \bigskip
506 <*thesis>
507     {\normalsize \underline{Doctor of Philosophy}\par}
508 </thesis>
509 <*minithesis>
510     {\normalsize \underline{A mini-thesis submitted for transfer from MPhil to PhD}\par}
511 </minithesis>
512 <*progress>
513     {\normalsize \underline{A progress report submitted for continuation towards a PhD}\par}
514 </progress>
515 <*project>
516     {\normalsize \underline{A project report submitted for the award of \degree name}\par}
517 </project>
518     \bigskip
519     {\normalsize\bf \@title \par}
520     \medskip
521     {\normalsize by \author names \par}
522     \bigskip
523     \end{center}
524 }
525 {
526 <*thesis | minithesis | progress | project | report>
527     \vfil\vfil\vfil\null
528     \cleardoublepage
529 </thesis | minithesis | progress | project | report>
530 }
531 </thesis | minithesis | progress | project | report | gdp>
532 <*article>
533 \if@titlepage
534     \renewenvironment{abstract}{
535         \titlepage
536         \null\vfil
537         \@beginparpenalty\@lowpenalty
538         \begin{center}
539             \bfseries \abstractname
540             \@endparpenalty\@M
541         \end{center}
542         \begin{itshape}
543             \noindent
544         }
545         {
546             \par
547             \end{itshape}
548             \if\keywordnames
549             \else
550                 \quote
551                 \vskip 1.5em
552                 {\noindent \normalsize
553                     \textbf{Keywords:}
554                     \textit{\keywordnames}
555                 \par}

```

```

556         \endquote
557     \fi
558     \vfil\null\endtitlepage
559 }
560 \else
561     \renewenvironment{abstract}{
562         \if@twocolumn
563             \section*{\abstractname}
564         \else
565             \small
566             \begin{center}
567                 {\bfseries \abstractname\vspace{-.5em}\vspace{\z@}}
568             \end{center}
569             \quote
570         \fi
571         \begin{itshape}
572     }
573     {
574         \end{itshape}
575         \if\keywordnames
576         \else
577             \vskip 1.5em
578             {\noindent \normalsize
579                 \textbf{Keywords:}
580                 \textit{\keywordnames}
581             \par}
582         \fi
583         \if@twocolumn\else\endquote\fi
584     }
585 \fi
586 \end{article}

```

## 7.3 Contents Pages

Possibly all of these pages should be redone but using the `tocloft` package to reduce complexity in this style file.

### 7.3.1 Add to Table of Contents

`\addtotoc` Get a better list of contents package

Ensures numbering for sub-subsections in the table of contents, and provide for 6 levels to appear in toc. Define `addtotoc` to enable adding elements to the toc at chapter level, using a dummy counter to fix bookmarks in pdfL<sup>A</sup>T<sub>E</sub>X.

```

587 (*thesis | minithesis | progress | project | report | gdp | article)
588 \usepackage[nottoc]{tocbibind} % Put the Lists, Glossary, Biblog and Idx in the conten
589 \addtocounter{secnumdepth}{1}
590 \setcounter{tocdepth}{6}
591 \newcounter{dummy}
592 \newcommand\addtotoc[1]{
593 \refstepcounter{dummy}
594 (*thesis | minithesis | progress | project | report | gdp)
595 \addcontentsline{toc}{chapter}{#1}}
596 \end{thesis | minithesis | progress | project | report | gdp}

```



```

597 <*article>
598 \addcontentsline{toc}{section}{#1}}
599 </article>

```

### 7.3.2 Table of Contents

`\tableofcontents` Adjust line and paragraph spacing.

```

600 \renewcommand\tableofcontents{
601 \hypersetup{linkcolor=black}}
602 \btypeout{Table of Contents}
603 \begin{spacing}{1}{
604   \setlength{\parskip}{1pt}
605   \if@twocolumn
606     \@restonecoltrue\onecolumn
607   \else
608     \@restonecolfalse
609   \fi
610 <*thesis | minithesis | progress | project | report | gdp>
611   \chapter*{\contentsname
612 </thesis | minithesis | progress | project | report | gdp>
613 <*article>
614   \section*{\contentsname
615 </article>
616   \@mkboth{
617     \MakeUppercase\contentsname}{\MakeUppercase\contentsname}}
618   \@starttoc{toc}
619   \if@restonecol\twocolumn\fi
620 <thesis | minithesis | progress | project | report | gdp> \cleardoublepage
621 } \end{spacing}
622 }

```

### 7.3.3 List of Figures

`\listoffigures` Adjust line and paragraph spacing.

```

623 \renewcommand\listoffigures{
624 \addtotoc{\listfigurename}
625 \begin{spacing}{1}{
626   \setlength{\parskip}{1pt}
627   \if@twocolumn
628     \@restonecoltrue\onecolumn
629   \else
630     \@restonecolfalse
631   \fi
632 <*thesis | minithesis | progress | project | report | gdp>
633   \chapter*{\listfigurename
634 </thesis | minithesis | progress | project | report | gdp>
635 <*article>
636   \section*{\listfigurename
637 </article>
638   \@mkboth{\MakeUppercase\listfigurename}
639     {\MakeUppercase\listfigurename}}
640   \@starttoc{lof}
641   \if@restonecol\twocolumn\fi

```

```

642 <*thesis | minithesis | progress | project | report | gdp>
643   \cleardoublepage
644 </thesis | minithesis | progress | project | report | gdp>
645 } \end{spacing}
646 }

```

### 7.3.4 List of Tables

`\listoftables` Adjust line and paragraph spacing.

```

647 \renewcommand\listoftables{
648   \addtotoc{\listtablename}
649   \begin{spacing}{1}{
650     \setlength{\parskip}{1pt}
651     \if@twocolumn
652       \@restonecoltrue\onecolumn
653     \else
654       \@restonecolfalse
655     \fi
656     <*thesis | minithesis | progress | project | report | gdp>
657     \chapter*{\listtablename}
658     </thesis | minithesis | progress | project | report | gdp>
659     <*article>
660     \section*{\listtablename}
661     </article>
662     \@mkboth{
663       \MakeUppercase\listtablename}{\MakeUppercase\listtablename}}
664     \@starttoc{lot}
665     \if@restonecol\twocolumn\fi
666     <*thesis | minithesis | progress | project | report | gdp>
667     \cleardoublepage
668     </thesis | minithesis | progress | project | report | gdp>
669   } \end{spacing}
670 }

```

### 7.3.5 List of Symbols

`\listsymbolname` Provide a `listofsymbols` command to produce a list of symbols,

```

\listofsymbols 671 <*thesis | minithesis | progress | report | article>
672 \newcommand\listsymbolname{Definitions and Abbreviations}
673 </thesis | minithesis | progress | report | article>
674 <*project | gdp>
675 \newcommand\listsymbolname{List of Symbols}
676 </project | gdp>
677 \usepackage{longtable}
678 \newcommand\listofsymbols[2]{
679   \btypeout{\listsymbolname}
680   \addtotoc{\listsymbolname}
681   <*thesis | minithesis | progress | project | report | gdp>
682   \chapter*{\listsymbolname}
683   </thesis | minithesis | progress | project | report | gdp>
684   <*article>
685   \section*{\listsymbolname}
686   </article>

```

```

687 \mkboth{
688 \MakeUppercase\listsymbolname}{\MakeUppercase\listsymbolname}}
689 \begin{longtable}[c]{#1}#2\end{longtable}\par
690 <{*thesis | minithesis | progress | project | report | gdp>
691 \cleardoublepage
692 </thesis | minithesis | progress | project | report | gdp>
693 }
694 </thesis | minithesis | progress | project | report | gdp | article>

```

### 7.3.6 List of Additional Material

`\addmaterialname` Provide a `listofaddmaterial` command to produce a list of additional material,  
`\listofaddmaterial` the name can be changed with `\addmaterialname{NewName}`  
`\addtolom` Material can be added by using `\addcontentsline{lom}{chapter}{Material Name}`

```

695 \newcommand\addmaterialname[List of Additional Material]
696 \newcommand\listofaddmaterial{
697 \addtotoc{\addmaterialname}
698 \begin{spacing}{1}{
699 \setlength{\parskip}{1pt}
700 \if@twocolumn
701 \@restonecoltrue\onecolumn
702 \else
703 \@restonecolfalse
704 \fi
705 <{*thesis | minithesis | progress | project | report | gdp>
706 \chapter*{\addmaterialname
707 </thesis | minithesis | progress | project | report | gdp>
708 <{*article>
709 \section*{\addmaterialname
710 </article>
711 \mkboth{
712 \MakeUppercase\addmaterialname}{\MakeUppercase\addmaterialname}}
713 \@starttoc{lom}
714 \if@restonecol\twocolumn\fi
715 <{*thesis | minithesis | progress | project | report | gdp>
716 \cleardoublepage
717 </thesis | minithesis | progress | project | report | gdp>
718 }\end{spacing}
719 }
720 \newcommand\addtolom[1]{%
721 \addtocontents{lom}{\protect\contentsline{chapter}{\protect\numberline{#1}}{}}
722 }

```

## 7.4 Declaration of Authorship

`\authorshipdeclaration` Taken from Modified Template by Lovell 9.3  
 TODO: Consider a separate dissertation class for non technical?  
 TODO: Provide extra argument for putting the date into the Declaration  
 This Authorship macro takes one argument for the case of People who have published part of their thesis already (perhaps in a paper).  
 This authorship macro produces the statement of Originality for the gdp class.  
 The authorship is normally done in custom appendix for projects like this.

xifthen else package used for the isempty command

```

723 <{*thesis | minithesis | progress | report | article | project}
724 \usepackage{xifthen}
725 \newcommand\authorshipdeclaration[1]{
726 \btypeout{Declaration of Authorship}
727 \addtotoc{Declaration of Authorship}
728 \thispagestyle{plain}
729 \null\vfil
730 \vskip 60\p@
731 \begin{center}{\Large\bf Declaration of Authorship \par}\end{center}
732 I declare that this thesis and the work presented in it is my own and has
733 been generated by me as the result of my own original research.
734
735 I confirm that:
736
737 \begin{enumerate}
738 <{*thesis | minithesis | progress | report | article}
739 \item This work was done wholly or mainly while in candidature for a research degree at this U
740 \item Where any part of this thesis has previously been submitted for a degree or any other qu
741 </thesis | minithesis | progress | report | article}
742 <{*project}
743 \item This work was done wholly or mainly while in candidature for a degree at this University
744 \item Where any part of this thesis has previously been submitted for any other qualification
745 </project}
746 \item Where I have consulted the published work of others, this is always clearly attributed;
747 \item Where I have quoted from the work of others, the source is always given. With the except
748 \item I have acknowledged all main sources of help;
749 \item Where the thesis is based on work done by myself jointly with others, I have made clear
750
751 \ifthenelse{\isempty{#1}}{
752 {\item None of this work has been published before submission}
753 {\item Parts of this work have been published as: #1}
754 \end{enumerate}
755
756 \vspace{15.0mm}
757 \begin{minipage}[t]{0.7\textwidth}
758 Signed:.....
759 \end{minipage}%
760 \begin{minipage}[t]{0.3\textwidth}
761 Date:.....
762 \end{minipage}
763 \vfil\vfil\null
764 \cleardoublepage
765 }
766 </thesis | minithesis | progress | report | article | project}
767 <{*gdp}
768 \usepackage{xifthen}
769 \newcommand\authorshipdeclaration[2][1]{
770 \btypeout{Declaration of Authorship}
771 \addtotoc{Statement of Originality}
772 \thispagestyle{plain}
773 \null\vfil
774 \vskip 60\p@
775 \begin{center}{\Large\bf Statement of Originality \par}\end{center}

```

```

776 %TODO Check Spelling
777
778 \begin{enumerate}
779
780 \ifthenelse{\isempty{#1}}{
781 {
782 \item I have read and understood the ECS Academic Integrity information
783 %% http://ecs.gg/ai
784 and the University's Academic Integrity Guidance for Students.
785 %% https://www.southampton.ac.uk/quality/assessment/academic\_integrity.page
786 \item I am aware that failure to act in accordance with the Regulations Governing Academic Integrity
787 %% http://www.calendar.soton.ac.uk/sectionIV/academic-integrity-regs.html
788 may lead to the imposition of penalties which, for the most serious cases, may include termination of the project.
789 \item I consent to the University copying and distributing any or all of my work in any form and for any purpose.
790 {#1}
791 %% The project specific statements
792 #2
793 \end{enumerate}
794 \vfil\vfil\null
795 \cleardoublepage
796 }
797 </gdp>

```

## 7.5 Copyright Statement

`\copyrightDeclaration` This standard Copyright statement is to be included for a thesis submission to University of Southampton Digital Repository

```

798 <{*thesis}
799 \usepackage[export]{adjustbox} % for Soton logo alignment
800 \newcommand\copyrightDeclaration[1]{
801
802 \btypeout{Copyright declaration}
803 \thispagestyle{plain}
804
805 \hspace{-1.5in}\hspace{2.5cm}\begin{minipage}{17cm}
806 \null\vfil
807 \includegraphics[width=6cm,right]{UoSLogo.png}
808
809 \vskip 60\p@
810 \begin{center}{\selectfont\huge
811 \textcolor{custGray}{University of Southampton Research Repository}\par}
812 \end{center}
813 \vspace{1cm}
814
815 {\fontfamily{fds}\selectfont
816
817 \noindent Copyright \textcopyright~ and Moral Rights for this thesis and, where
818 applicable, any accompanying data are retained by the author and/or other
819 copyright owners. A copy can be downloaded for personal non-commercial research
820 or study, without prior permission or charge. This thesis and the accompanying
821 data cannot be reproduced or quoted extensively from without first obtaining
822 permission in writing from the copyright holder/s. The content of the thesis
823 and accompanying research data (where applicable) must not be changed in any

```

```

824 way or sold commercially in any format or medium without the formal permission
825 of the copyright holder/s.
826
827 \vspace{0.5cm}
828
829 When referring to this thesis and any accompanying data, full bibliographic
830 details must be given, e.g.
831
832 \vspace{0.5cm}
833
834 Thesis: Author (Year of Submission) "Full thesis title", University of
835 Southampton, name of the University Faculty or School or Department,
836 PhD Thesis, pagination.
837
838 \vspace{0.5cm}
839
840 Data: Author (Year) Title. URI [dataset]]
841 \end{minipage}
842 \vfil\vfil\null
843 \cleardoublepage
844 }
845
846 \usepackage{lastpage} % counts the full number of pages
847
848 \thesis)

```

## 7.6 Acknowledgements

`\acknowledgements` Thank someone!

```

849 \newcommand\acknowledgements[1]{
850 \btypeout{Acknowledgements}
851 \addtotoc{Acknowledgements}
852 \thesis | minithesis | progress | project | report | gdp)
853 \thispagestyle{plain}
854 \null\vfil
855 \vskip 60\p@
856 \begin{center}{\Large\bf Acknowledgements \par}\end{center}
857 {\normalsize #1}
858 \vfil\vfil\null
859 \cleardoublepage
860 \thesis | minithesis | progress | project | report | gdp)
861 \article)
862 \section*{Acknowledgements}
863 {\normalsize #1}
864 \article)
865 }

```

## 7.7 Dedicatory

`\dedicatory` Dedicate the document to someone!

```

866 \newcommand\dedicatory[1]{
867 \btypeout{Dedicatory}
868 \thesis | minithesis | progress | project | report | gdp)

```

```

869 \thispagestyle{plain}
870 \null\vfil
871 \vskip 60\p@
872 \begin{center}{\Large \sl #1}\end{center}
873 \vfil\null
874 \cleardoublepage
875 </thesis | minithesis | progress | project | report | gdp>
876 }

```

## 8 Parts

```

\frontmatter Define frontmatter,mainmatter,backmatter for the article class and rename the
\mainmatter bibliography to something that makes more sense. For other classes make the
\backmatter Appendix entry in the table of contents better and rename the references in a
\appendix slightly different way.

877 <{*article}
878 \newcommand\frontmatter{ }
879 \newcommand\mainmatter{ }
880 \newcommand\bibname{References}
881 \newcommand\backmatter{}
882 </article>
883 <{*thesis | minithesis | progress | project | report | gdp>
884 \renewcommand\bibname{References}
885 \let\oldappendix\appendix % Put full appendix name in ToC
886 \renewcommand{\appendix}{%
887   \oldappendix
888   \let\oldacl@pp=\addcontentsline
889   \def\addcontentsline##1##2##3{\oldacl@pp{##1}{##2}{\appendixname\space ##3}}
890 }
891 \let\oldbackmatter\backmatter
892 \def\backmatter{%
893   \oldbackmatter
894   \let\addcontentsline=\oldacl@pp
895 }
896 </thesis | minithesis | progress | project | report | gdp>

897 </thesis | minithesis | progress | project | report | article | gdp | gdpsummary>

```

## 9 Example Documents

```

898 <{*testthesis}
899 \documentclass[sotoncolour]{uosthesis} % Use the Thesis Style with custom link colour
900 </testthesis>
901 <{*testminithesis}
902 \documentclass[sotoncolour]{uosminithesis} % Use the minithesis Style with custom link colour
903 </testminithesis>
904 <{*testprogress}
905 \documentclass[sotoncolour]{uosprogress} % Use the progress Style with custom link colour
906 </testprogress>
907 <{*testproject}
908 \documentclass[sotoncolour]{uosproject} % Use the Project Style with custom link colour
909 </testproject>

```

```

910 <*testreport>
911 \documentclass[sotoncolour]{uosreport}      % Use the Report Style with custom link colour
912 </testreport>
913 <*testarticle>
914 \documentclass[sotoncolour]{uosarticle}      % Use the Article Style with custom link colour
915 </testarticle>
916 <*testgdp>
917 \documentclass[sotoncolour]{uosgdp}          % Use the GDP Report Style with custom link colour
918 </testgdp>
919 <*testgdpsummary>
920 \documentclass[sotoncolour]{uosgdpsummary}    % Use the GDP Summary Report Style with custom link colour
921 </testgdpsummary>
922 <*testthesis | testminithesis | testprogress | testproject | testreport | testarticle | testgdp | testgdpsummary>
923 \graphicspath{{../Figures/}}                % Location of your graphics files
924 \usepackage[round]{natbib}                  % Use Natbib style for the refs.
925 <*testthesis | testminithesis | testproject | testreport | testgdp>
926 \usepackage{bibentry}                       % Use bibentry for prepublished works
927 \nobibliography*                             % Use bibentry for prepublished works
928 \usepackage{attrib}                         % Use the attrib package for quotations
929 </testthesis | testminithesis | testproject | testreport | testgdp>
930 \hypersetup{colorlinks=true}                % Set to false for black/white printing
931 \input{Definitions}                         % Include your abbreviations
932 %% -----
933 %% -----THESIS/DOC INFORMATION -----
934 \department {School of [Insert school]}
935 \DEPARTMENT {\MakeUppercase{\deptname}}
936 \group      {[Group name]}
937 \GROUP      {\MakeUppercase{\groupname}}
938 \faculty    {Faculty of [Insert faculty]}
939 \FACULTY    {\MakeUppercase{\facname}}
940 \title      {An Investigation into \dots}
941 <*testthesis>
942 \authors    {Insert name, for example, Sarah Alison Watson} % Use of Soton Email unadvised, use Soton Email
943 </testthesis>
944 <*testminithesis | testprogress | testproject | testreport | testarticle | testgdp | testgdpsummary>
945 \authors    {\texorpdfstring
946              {\href{mailto:S.A.Watson@soton.ac.uk}{Name and email, for example, Sarah Alison Watson}}
947              {Name and email, for example, Sarah Alison Watson}}
948 }
949 </testminithesis | testprogress | testproject | testreport | testarticle | testgdp | testgdpsummary>
950 \addresses  {\groupname\\deptname\\univname}
951 \date       {\today}
952 <*testminithesis | testprogress | testproject | testgdp | testgdpsummary>
953 % \supervisor[s] {Mr Beavis and Mrs S Supervisor}
954 \supervisor {Mr Beavis}
955 % \examiner[s] {Dr Butthead and Dr A.N. Other}
956 \examiner   {Dr Butthead}
957 </testminithesis | testprogress | testproject | testgdp | testgdpsummary>
958 <*testproject>
959 \degree     {BEng Electronic Engineering}
960 </testproject>
961 <*testgdp | testgdpsummary>
962 \degree     {Master of Engineering}
963 </testgdp | testgdpsummary>

```



```

964 %% Optional Fields
965 <testthesis|testminithesis|testprogress> \qualifications{MEng PhD}
966 <*testthesis>
967 \orcidid{0000-0002-1825-0097}
968 \doi{10.1002/0470841559.ch1}
969 \volume{n}{m} %Optional Volume Numbering Volume n of m
970 </testthesis>
971 \subject {}
972 \keywords {}
973
974 \begin{document}
975 %% ----- FRONT MATTER ORGANISATION -----
976 <*testthesis>
977 \pagenumbering{gobble} % removes page number
978 \copyrightDeclaration{} % !!! Comment this line when printing the hardcopy !!!
979 \raggedright % Set the style to Left justification, remove for fill justification
980 % Must be done after copyrightDeclaration
981 </testthesis>
982 \frontmatter
983 \maketitle
984 </testthesis|testminithesis|testprogress|testproject|testreport|testarticle|testgdp|testgdpsummary>
985 <*testthesis|testminithesis|testprogress|testproject|testreport|testarticle|testgdp>
986 \begin{abstract}
987 This work is all about \dots
988 <*testthesis|testminithesis|testprogress>
989 There are broad instructions for this template entitled: How to use the University of Southamp
990
991 There is no prescribed font, you should use a font appropriate to your discipline. See Produ
992 </testthesis|testminithesis|testprogress>
993 \end{abstract}
994 <*testthesis|testminithesis|testprogress|testproject|testreport|testgdp>
995 \tableofcontents
996 \listoffigures
997 \listoftables
998 %% The List of listings does not, by default, appear in the ToC, so....
999 \addtotoc{Listings}
1000 \lstlistoflistings
1001 \listofaddmaterial
1002 \addtolom{Material Name e.g Map}
1003 \addtolom{Material Name e.g CD}
1004 \addtolom{Test Material}
1005 <*testthesis|testminithesis|testproject|testreport>
1006 %% ----- AUTHORSHIP DECLARATION/ ACKNOW. / DEDICATORY -----
1007 %% Either include citations like below (as many as required spaced with commas or 'and').
1008 %% \bibentry command must be used here with prepublished papers
1009 % https://www.stefaanlippens.net/bibentry/
1010 \authorshipdeclaration{\bibentry{Gunn:2001:pdflatex}, \bibentry{Lovell:2011:updated} and \bibe
1011 %% Or state no citations like below
1012 %% \authorshipdeclaration{}
1013 %% -----
1014 \acknowledgements{Thanks to no one.}
1015 \dedicatory{To \dots}
1016 </testthesis|testminithesis|testproject|testreport>
1017 <*testgdp>

```

```

1018 %% ----- STATEMENT OF ORIGINALITY/ ACKNOW. / DEDICATORY -----
1019 %% based on ai_statement.docx available: https://secure.ecs.soton.ac.uk/notes/elec6200/
1020 %% If not for an ECS GDP and you want to remove or change the ECS Manadatory ai statements.
1021 %%\authorshipdeclaration[\item Department specific regulation]{\item extra statements}
1022 \authorshipdeclaration{
1023 %% *****You must change the statements below if you do not agree with them. *****
1024 \item I have acknowledged all sources, and identified any content taken from elsewhere.
1025 \item I have not used any resources produced by anyone else.
1026 \item I did all the work myself, or with my allocated group, and have not helped anyone else.
1027 \item The material in the report is genuine, and I have included all my data/code/designs.
1028 \item I have not submitted any part of this work for another assessment.
1029 \item My work did not involve human participants, their cells or data, or animals.}
1030 %% -----
1031
1032 \acknowledgements{Thanks to no one.}
1033 \dedicatory{To \dots}
1034 \end{testgdp}
1035 %%Lightweight Definitions and Abbreviations see package:nomencl for alternative
1036 %% Include if relevant to discipline
1037 \listofsymbols{lll}{\w$ & The weight vector\$\S$ & If relevant to discipline}
1038 \end{testthesis} \testminithesis \testprogress \testproject \testreport \testgdp}
1039 \end{testthesis} \testminithesis \testprogress \testproject \testreport \testarticle \testgdp}
1040 \end{testthesis} \testminithesis \testprogress \testproject \testreport \testarticle \testgdp \testgdpsummary}
1041 \mainmatter
1042 %% ----- MAIN MATTER (CONTENT) -----
1043 \end{testthesis} \testminithesis \testprogress \testproject \testreport \testarticle \testgdp \testgdpsummary}
1044 \end{testthesis} \testminithesis \testprogress \testproject \testreport \testgdp}
1045 \include{Introduction}
1046 \include{Conclusions}
1047 \begin{lstlisting}[caption=Without a title it doesn't appear in the table]
1048 This is a test listing
1049
1050 It has several lines
1051 That
1052 say not much at all
1053 \end{lstlisting}
1054 \appendix
1055 \include{AppendixA}
1056 \backmatter
1057 \end{testthesis} \testminithesis \testprogress}
1058 \chapter{Glossary [if relevant]}
1059 \end{testthesis} \testminithesis \testprogress}
1060 \bibliographystyle{plainnat}
1061 \bibliography{UOS}
1062 \end{testthesis} \testminithesis \testprogress}
1063 \chapter{Bibliography}
1064 To use bibliography as well as the references section use the \texttt{multibbl} package.
1065 \chapter{Index [if relevant]}
1066 \end{testthesis} \testminithesis \testprogress}
1067 \end{testthesis} \testminithesis \testprogress \testproject \testreport \testgdp}
1068 \end{testgdpsummary}
1069 \section*{Introduction}
1070 \section*{Objectives}
1071 \section*{Resources}

```

```

1072 \section*{Constraints}
1073 \section*{Approaching the task}
1074 \section*{Team Organisation}
1075 \section*{Important Results}
1076 \section*{Conclusions}
1077 \section*{Recommendations}
1078 \end{testgdpsummary}
1079 \begin{introduction}
1080 \chapter{Introduction} \label{Chapter:Introduction}
1081 \end{introduction}
1082 \begin{testarticle}
1083 \section{Introduction} \label{Section:Introduction}
1084 \end{testarticle}
1085 \begin{introduction|testarticle}
1086 You probably found all the files from \cite{Longman:2019:templ},
1087 they were originally made from \cite{Gunn:2001:pdflatex}.
1088 Template specific instructions can be found at:
1089 \url{https://git.soton.ac.uk/el7g15/uos-latex-template-instructions}.
1090
1091 \tref{Table:tabex} illustrates the results of some arbitrary example work.
1092 \begin{table}[\!htb]
1093 \centering
1094 \begin{tabular}{cc}
1095 \toprule
1096 \textbf{Training Error} & \textbf{Testing Error}\\
1097 \midrule
1098 0 &  $\infty$ 
1099 \bottomrule
1100 \end{tabular}
1101 \caption{The Results}
1102 \label{Table:tabex}
1103 \end{table}
1104
1105 \fref{Figure:figex} shows why this is the case.
1106 \begin{figure}[\!htb]
1107 \centering
1108 \includegraphics[width=8cm]{figure}
1109 \caption{A colourful picture.}
1110 \label{Figure:figex}
1111 \end{figure}
1112
1113 This page shows you a subfigure example in \fref{Figure:figsubex}.
1114 \begin{figure}[\!htb]
1115 \centering
1116 \subcaptionbox{The left caption}{
1117 \includegraphics[width=4.2cm]{figure}
1118 \label{Figure:figsubex:left}
1119 }
1120 \subcaptionbox{The right caption}{
1121 \includegraphics[width=4.2cm]{figure}
1122 \label{Figure:figsubex:right}
1123 }
1124 \caption{A doubly colourful picture.}
1125 \label{Figure:figsubex}

```

```

1126 \end{figure}
1127 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec rutrum sodales ligula, ac aliquam
1128
1129 \section{A Section of a chapter}
1130 Nulla molestie velit sed dui ullamcorper viverra. Fusce placerat vulputate lacus eu consequat.
1131
1132 \subsection{Some quotes}
1133
1134 Nam egestas felis euismod erat tincidunt ornare. Nulla hendrerit tempor purus ac consequat. Aliquam
1135 \begin{quote}
1136 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec rutrum sodales ligula, ac aliquam
1137 \end{quote}
1138
1139 Pellentesque sodales lobortis feugiat. Vivamus volutpat mauris id odio aliquam maximus sed sit amet
1140 \begin{quote}
1141 The \verb|\attrib| macro attributes block elements, for example when citing
1142 a reference after a block quotation.
1143 \attrib{\cite{attribpackage}}
1144 \end{quote}
1145
1146 Donec vitae massa nisi. Praesent sed sollicitudin urna. Suspendisse vitae cursus tortor. In egestas
1147 \</introduction | testarticle>
1148 \< *conclusions>
1149 \chapter{Conclusions} \label{Chapter: Conclusions}
1150 \</conclusions>
1151 \< *testarticle>
1152 %% -----
1153 \section{Conclusions} \label{Section: Conclusions}
1154 \</testarticle>
1155 \< *conclusions | testarticle>
1156 It works.
1157 \</conclusions | testarticle>
1158 \< *testarticle>
1159 \acknowledgements{Thanks to no one.}
1160 \backmatter
1161 \appendix
1162 \bibliographystyle{plainnat}
1163 \bibliography{UOS}
1164 \</testarticle>
1165 \< *appendix | testarticle>
1166 \< *appendix>
1167 \chapter{Stuff} \label{Chapter: Stuff}
1168 \</appendix>
1169 \< *testarticle>
1170 %% -----
1171 \section{Stuff} \label{Section: Stuff}
1172 \</testarticle>
1173 The following gets in the way of the text....
1174 \</appendix | testarticle>
1175 \< *testthesis | testminithesis | testprogress | testproject | testreport | testarticle | testgdp | testgdpsummary>
1176 \end{document}
1177 %% -----
1178 \</testthesis | testminithesis | testprogress | testproject | testreport | testarticle | testgdp | testgdpsummary>

```

## 9.1 Example Figure

```
1179 <*figure>
1180 %%BoundingBox: 0 150 600 650
1181 %%EndComments
1182 0.0 setlinewidth
1183 /length 0.1 def
1184 /width 0.02 def
1185 /hsvcircle {
1186   gsave
1187     /h 0.0 def
1188     0 4 360 {
1189       pop
1190       gsave
1191       0.5 0.0 translate
1192       newpath
1193       0.0 0.0 moveto
1194       length 0.0 lineto
1195       length width lineto
1196       0.0 width lineto
1197       closepath
1198       h 1.0 1.0 sethsbcolor
1199       fill
1200       grestore
1201       /h h 4 360 div add def
1202       4 rotate
1203     } for
1204   grestore
1205 } def
1206 0.0 setlinewidth
1207 0.0 setgray
1208 300 400 translate
1209 500 500 scale
1210 30 rotate
1211 1.0 0.7 scale
1212 -30 rotate
1213 hsvcircle
1214 0.8 0.8 scale
1215 hsvcircle
1216 0.8 0.8 scale
1217 hsvcircle
1218 0.8 0.8 scale
1219 hsvcircle
1220 0.8 0.8 scale
1221 hsvcircle
1222 0.8 0.8 scale
1223 hsvcircle
1224 0.8 0.8 scale
1225 hsvcircle
1226 showpage
1227 </figure>
```

## 9.2 Definitions File

```
1228 <*definitions>
```

```

1229 \newcommand{\BibTeX}{\rm B\kern-.05em{\sc i\kern-.025em b}\kern-.08em T\kern-.1667em\lower.7
1230
1231 %% People
1232 \newcounter{address}
1233 \setcounter{address}{1}
1234 \renewcommand{\theaddress}{\textsuperscript{\fnsymbol{address}}}
1235 \newcommand{address}[1]{\refstepcounter{address}\theaddress#1\}
1236 \newcommand{Name}[3]{\texorpdfstring{\href{mailto:#3}{#2}#1}{#2}\xspace}
1237 \newcommand{SteveRGunn}[1]{\Name{#1}{Steve R. Gunn}{S.R.Gunn@ecs.soton.ac.uk}}
1238
1239 %% Dingbats
1240 \newcommand{tick}{\ding{51}}
1241 \newcommand{cross}{\ding{55}}
1242
1243 %% Calculus
1244 \newcommand{pd}[2]{\ensuremath{\frac{\partial #1}{\partial #2}}\xspace}
1245 \newcommand{fd}[2]{\ensuremath{\frac{d #1}{d #2}}\xspace}
1246 \newcommand{dint}{\ensuremath{\int\!\!\!\int}\xspace}
1247 \newcommand{tint}{\ensuremath{\int\!\!\!\int\!\!\!\int}\xspace}
1248
1249 %% Math Sets
1250 \newcommand{Q}[1]{\ensuremath{\mathbb{#1}}\xspace}
1251 \newcommand{R}{\mathbb{R}}
1252
1253 %% Matrix, Vector
1254 \newcommand{V}[1]{\ensuremath{\boldsymbol{#1}}\xspace}
1255 \newcommand{M}[1]{\ensuremath{\boldsymbol{#1}}\xspace}
1256 \newcommand{0}{\mathbb{V}\{0\}}
1257 \newcommand{1}{\mathbb{V}\{1\}}
1258 \newcommand{I}{\mathbb{M}\{I\}}
1259
1260 %% Math Functions
1261 \newcommand{F}[1]{\ensuremath{\mathrm{#1}}\xspace}
1262 \newcommand{sgn}{F\{sgn\}}
1263 \newcommand{tr}{F\{trace\}}
1264 \newcommand{diag}{F\{diag\}}
1265
1266 %% Math Names
1267 \newcommand{N}[1]{\ensuremath{\mathit{#1}}\xspace}
1268
1269 %% Data
1270 \newcommand{mc}[1]{\ensuremath{\mathcal{#1}}\xspace}
1271 \newcommand{Hyp}{\mc{H}}
1272 \newcommand{D}{\mc{D}}
1273
1274 %% Kernel
1275 \newcommand{K}{\mathbb{M}\{K\}}
1276 \newcommand{eins}{\texorpdfstring{\ensuremath{\epsilon}}{\textepsilon-insensitive}\xspace}
1277 \newcommand{e}{\ensuremath{\epsilon}\xspace}
1278 \newcommand{Bxi}{\ensuremath{\boldsymbol{\xi}}\xspace}
1279 \newcommand{Kanova}{\ensuremath{\mathit{K}_{ANOVA}}\xspace}
1280 \newcommand{Kspline}{\ensuremath{\mathit{K}_{spline}}\xspace}
1281
1282 %% Bayesian

```

```

1283 \newcommand{\MP}{\ensuremath{\mathit{\scriptscriptstyle \hspace{-1.5pt}M\hspace{-1.5pt}P}}\hspace{-1.5pt}}
1284 \newcommand{\ML}{\ensuremath{\mathit{\scriptscriptstyle \hspace{-1.5pt}M\hspace{-1.5pt}L}}\hspace{-1.5pt}}
1285 \newcommand{\Qw}{\ensuremath{Q_{\scriptscriptstyle W}}\hspace{-1.5pt}}
1286 \newcommand{\Qa}{\ensuremath{Q_{\scriptscriptstyle A}}\hspace{-1.5pt}}
1287 \newcommand{\Qb}{\ensuremath{Q_{\scriptscriptstyle B}}\hspace{-1.5pt}}
1288 \newcommand{\wMPab}{\ensuremath{w_{\scriptscriptstyle MP|A,B}}\hspace{-1.5pt}}
1289 \newcommand{\wMP}{\ensuremath{w_{\scriptscriptstyle MP}}\hspace{-1.5pt}}
1290 \newcommand{\yMP}{\ensuremath{y_{\scriptscriptstyle MP}}\hspace{-1.5pt}}
1291 \newcommand{\BaMP}{\ensuremath{B_{\scriptscriptstyle A|MP}}\hspace{-1.5pt}}
1292 \newcommand{\aMP}{\ensuremath{\alpha_{\scriptscriptstyle MP}}\hspace{-1.5pt}}
1293 \newcommand{\bMP}{\ensuremath{\beta_{\scriptscriptstyle MP}}\hspace{-1.5pt}}
1294 \newcommand{\Sab}{\ensuremath{S_{\scriptscriptstyle A|B}}\hspace{-1.5pt}}
1295 \newcommand{\Ba}{\ensuremath{B_{\scriptscriptstyle A}}\hspace{-1.5pt}}
1296 \newcommand{\Bb}{\ensuremath{B_{\scriptscriptstyle B}}\hspace{-1.5pt}}
1297 \newcommand{\Bm}{\ensuremath{B_{\scriptscriptstyle M}}\hspace{-1.5pt}}
1298 \newcommand{\BL}{\ensuremath{B_{\scriptscriptstyle L}}\hspace{-1.5pt}}
1299 \newcommand{\BPhi}{\ensuremath{B_{\scriptscriptstyle \Phi}}\hspace{-1.5pt}}
1300 \newcommand{\SMP}{\ensuremath{S_{\scriptscriptstyle MP}}\hspace{-1.5pt}}
1301
1302 \newcommand{\Pa}{\ensuremath{P_{\scriptscriptstyle A}}\hspace{-1.5pt}}
1303 \newcommand{\Pb}{\ensuremath{P_{\scriptscriptstyle B}}\hspace{-1.5pt}}
1304 \newcommand{\Pab}{\ensuremath{P_{\scriptscriptstyle A,B}}\hspace{-1.5pt}}
1305 \newcommand{\Pw}{\ensuremath{P_{\scriptscriptstyle W}}\hspace{-1.5pt}}
1306 \newcommand{\PD}{\ensuremath{P_{\scriptscriptstyle D}}\hspace{-1.5pt}}
1307 \newcommand{\PwIa}{\ensuremath{P_{\scriptscriptstyle W|A}}\hspace{-1.5pt}}
1308 \newcommand{\PDIwb}{\ensuremath{P_{\scriptscriptstyle D|W,B}}\hspace{-1.5pt}}
1309 \newcommand{\PDwab}{\ensuremath{P_{\scriptscriptstyle D,W,A,B}}\hspace{-1.5pt}}
1310 \newcommand{\PDIw}{\ensuremath{P_{\scriptscriptstyle D|W}}\hspace{-1.5pt}}
1311 \newcommand{\PwID}{\ensuremath{P_{\scriptscriptstyle W|D}}\hspace{-1.5pt}}
1312 \newcommand{\PwabID}{\ensuremath{P_{\scriptscriptstyle W,A,B|D}}\hspace{-1.5pt}}
1313
1314 \newcommand{\PanH}{\ensuremath{P_{\scriptscriptstyle A}}\hspace{-1.5pt}}
1315 \newcommand{\PbnH}{\ensuremath{P_{\scriptscriptstyle B}}\hspace{-1.5pt}}
1316 \newcommand{\PabnH}{\ensuremath{P_{\scriptscriptstyle A,B}}\hspace{-1.5pt}}
1317 \newcommand{\PwnH}{\ensuremath{P_{\scriptscriptstyle W}}\hspace{-1.5pt}}
1318 \newcommand{\PDnH}{\ensuremath{P_{\scriptscriptstyle D}}\hspace{-1.5pt}}
1319 \newcommand{\PwIaH}{\ensuremath{P_{\scriptscriptstyle W|A}}\hspace{-1.5pt}}
1320 \newcommand{\PDIwbH}{\ensuremath{P_{\scriptscriptstyle D|W,B}}\hspace{-1.5pt}}
1321 \newcommand{\PDwabnH}{\ensuremath{P_{\scriptscriptstyle D,W,A,B}}\hspace{-1.5pt}}
1322 \newcommand{\PDIwH}{\ensuremath{P_{\scriptscriptstyle D|W}}\hspace{-1.5pt}}
1323 \newcommand{\PwIDnH}{\ensuremath{P_{\scriptscriptstyle W|D}}\hspace{-1.5pt}}
1324 \newcommand{\PwabIDnH}{\ensuremath{P_{\scriptscriptstyle W,A,B|D}}\hspace{-1.5pt}}
1325
1326 \newcommand{\PDwBab}{\ensuremath{P_{\scriptscriptstyle D,W,A,B}}\hspace{-1.5pt}}
1327 \newcommand{\PwIBa}{\ensuremath{P_{\scriptscriptstyle W|A,B}}\hspace{-1.5pt}}
1328 \newcommand{\PBab}{\ensuremath{P_{\scriptscriptstyle A,B}}\hspace{-1.5pt}}
1329 \newcommand{\PwBabID}{\ensuremath{P_{\scriptscriptstyle W,A,B|D}}\hspace{-1.5pt}}
1330
1331 \newcommand{\PBanH}{\ensuremath{P_{\scriptscriptstyle A}}\hspace{-1.5pt}}
1332 \newcommand{\PwIBanH}{\ensuremath{P_{\scriptscriptstyle W|A,B}}\hspace{-1.5pt}}
1333
1334 %% Snakes
1335 \newcommand{\Esnake}{\ensuremath{\mathit{E_{\scriptscriptstyle snake}}}\hspace{-1.5pt}}
1336 \newcommand{\Eimage}{\ensuremath{\mathit{E_{\scriptscriptstyle image}}}\hspace{-1.5pt}}

```

```

1337 \newcommand{\Econt}{\ensuremath{\mathit{E}_{\text{cont}}}}\xspace}
1338 \newcommand{\Ecurv}{\ensuremath{\mathit{E}_{\text{curv}}}}\xspace}
1339 \newcommand{\Eint}{\ensuremath{\mathit{E}_{\text{int}}}}\xspace}
1340 \newcommand{\Eext}{\ensuremath{\mathit{E}_{\text{ext}}}}\xspace}
1341 \newcommand{\Eterm}{\ensuremath{\mathit{E}_{\text{term}}}}\xspace}
1342 \newcommand{\Eline}{\ensuremath{\mathit{E}_{\text{line}}}}\xspace}
1343 \newcommand{\Edge}{\ensuremath{\mathit{E}_{\text{edge}}}}\xspace}
1344 \newcommand{\Econ}{\ensuremath{\mathit{E}_{\text{con}}}}\xspace}
1345 \newcommand{\Eangle}{\ensuremath{\mathit{E}_{\text{angle}}}}\xspace}
1346 \newcommand{\Elshape}{\ensuremath{\mathit{E}_{\text{lshape}}}}\xspace}
1347 \newcommand{\Eedgedir}{\ensuremath{\mathit{E}_{\text{edgedir}}}}\xspace}
1348 \newcommand{\Emodel}{\ensuremath{\mathit{E}_{\text{model}}}}\xspace}
1349 \newcommand{\wte}{\ensuremath{\mathit{w}_{\text{term}}}}\xspace}
1350 \newcommand{\wli}{\ensuremath{\mathit{w}_{\text{line}}}}\xspace}
1351 \newcommand{\wed}{\ensuremath{\mathit{w}_{\text{edge}}}}\xspace}
1352 \newcommand{\wco}{\ensuremath{\mathit{w}_{\text{con}}}}\xspace}
1353
1354
1355 %% Environments
1356 \newcounter{alg}
1357 \newenvironment{algorithm}[1]
1358 {
1359     \stepcounter{alg}
1360     \begin{table}[htb]
1361     \centering
1362     \begin{tabular}[t]{l}
1363     \hline&\&
1364     \multicolumn{2}{l}{\bf Algorithm \arabic{alg}: #1}\&\&
1365     \end{tabular}
1366     &\&
1367     \hline
1368     \end{tabular}
1369     \end{table}
1370 }
1371 \</definitions>

```

### 9.3 References File

```

1372 \<references>
1373 @MISC{Longman:2019:templ,
1374   author = {E. Longman},
1375   title = {{University of Southampton LaTeX documents}},
1376   year = {2019},
1377   NOTE = "\url{https://library.soton.ac.uk/thesis/templates} and
1378           \url{https://git.soton.ac.uk/el7g15/uos-latex-template}"},
1379 }
1380 @MISC{Gunn:2001:pdflatex,
1381   author = {S.R. Gunn},
1382   title = {PDFLaTeX Instructions},
1383   year = {2001},
1384   url = {http://www.ecs.soton.ac.uk/~srg/softwaretools/document/}
1385 }
1386 @MISC{Lovell:2011:updated,
1387   author = {C. J. Lovell},
1388   title = {Updated templates},

```



```

1389   year =           {2011}
1390 }
1391 @MISC{Gunn:2011:updated2,
1392   author =          {S.R. Gunn and C. J. Lovell},
1393   title =           {Updated templates reference 2},
1394   year =           {2011}
1395 }
1396 @MISC{attribpackage,
1397   author =          {Matt Swift},
1398   title =           {The attrib LaTeX package
1399 attribution of block elements (Frankenstein's hat)},
1400   year =           {1999},
1401   url =            {http://cs.brown.edu/about/system/managed/latex/doc/attrib.pdf}
1402 }
1403
1404 </references>

```

## 9.4 Bibliography Style File

This has now been changed to the ordinary plainnat as natbib caught up

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\@starttoc	601, 623, 647, 696		



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