

## LaTeX Tips & Tricks

1. The template shows a left-justified alignment for the texts, but my file does not look like the template. What should I do?

In the dissertation.tex file look for the following commands and make sure they are not commented out using % before the commands:

`\raggedright`

`\parindent 0.5 in`

The `\parindent 0.5 in` command will make each paragraph as ½ inch indented.

Also, these commands should be inserted before the commands for including all chapters. `[\input{chapters/chapter1}]`

2. How to truncate the name of a figure/table that appears in the LIST OF FIGURES or LIST OF TABLES?

`\caption[{}]`

Insert the long caption inside the curly brackets and the truncated caption goes inside the square bracket. Use the truncated caption only if you have a long enough caption under the figure/table. Please make sure you include the part exactly same till the first period from the long caption in the truncated caption.

3. The Graduate College approved [Thesis/Dissertation Handbook](#) states that the theses/dissertations must be written in Times New Roman font, 12-point size. Why does my font show Nimbus Roman No9 L with a 11.96-point size?

Although the characters for Times New Roman and Nimbus Roman No.9 L are not exactly the same, but they are almost identical. The following command has been used in the LaTeX template to get the font:

`\usepackage{times}`

The default font size in LaTeX using the times package is 10-point size font. When you convert it to PDF, the font becomes 11.96 size. This is because the sizing ratio between LaTeX and Word is approximately 1.25:1.5. Therefore, a 10 or 11-point size in LaTeX might not equal a 12-point size font in the pdf but we are aware of this.

4. There are certain tables/figures in my document which need to be on their own page. How to make that happen?

According to the Graduate College approved [Thesis/Dissertation Handbook](#), if the tables/figures are over 4 ½ inches in height, including table title/heading, source, and any footnotes or other explanation, they may be given a page of their own after the textual reference. For any figures/tables to have its own page, use the following command after the figure/table caption and any footnote you might have:

`\clearpage`

Without using the `\clearpage` command:

```

1- \chapter{\texorpdfstring{MATHEMATICS}{}} Upper case only
2
3 \setcounter{equation}{0}
4 \numberwithin{equation}{section}
5
6 \section{Small figures}
7 This section illustrates how to include a small .eps figure.
8 You can also use .pdf figures.
9 Run PDFLaTeX to compile the LaTeX source code.
10
11 \begin{figure}[h]
12 \centering
13 \includegraphics[width = 4.5 in ]{figures/figure.eps}
14 \caption{Caption of a figure.}\label{FigureLabel}
15 %\isucaption{abc def hij kln nopqrst uvwx yz abcdef ghijkl mnpqr stuvw xz aaaa bbbb cccc
16 %\isucaption{gggggggggggg hhhhhhhhhh}\label{FigureLabel}
17 \end{figure}
18 \section{Making tables}
19
20 \begin{table}[ht]
21 \centering \caption{The values of test
22 statistics and the corresponding critical values
23 at  $t_0$ ,  $\alpha=0.1$ .}\label{stanford}\vskip .1in
24 \begin{tabular}{|c|c|c|c|c|c|}\hline
25  $t_0$  & 30 & 60 & 90 & 120 & 150 & 180 \\ \hline
26 Critical Value & 11.2282 & 10.5357 & 11.1108 & 11.7942 & 11.7343 & 11.7471 \\ \hline
27 Test Statistic & 25.3182 & 24.6395 & 24.6049 & 25.6623 & 27.1320 & 29.3247 \\ \hline
28 \end{tabular}
29 \end{table}
30
31 \section{Citations}
32
33 %If you use the package natbib for citations, here is the example how to cite an article.
34 %Many thanks to Dr. Maria Rizzo who worked this section.
35
36 The easiest way to cite published works is to look them up with an online tool like\
37 \noindent scholar.google.com, copy the BibTeX citation information into the file
38 reference.bib (click the double quotes under the article in Google Scholar), then run BibTeX
39 on dissertation.tex.
40
41 Below are the commands to insert citations into your dissertation.

```

CHAPTER 1 MATHEMATICS 1

1.1 Small figures

This section illustrates how to include a small .eps figure. You can also use .pdf figures. Run PDFLaTeX to compile the LaTeX source code.

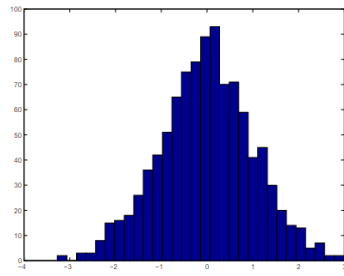


Figure 1.1 Caption of a figure.

1.2 Making tables

Table 1.1 The values of test statistics and the corresponding critical values at  $t_0$ ,  $\alpha = 0.1$ .

$t_0$	30	60	90	120	150	180
Critical Value	11.2282	10.5357	11.1108	11.7942	11.7343	11.7471
Test Statistic	25.3182	24.6395	24.6049	25.6623	27.1320	29.3247

1.3 Citations

The easiest way to cite published works is to look them up with an online tool like scholar.google.com, copy the BibTeX citation information into the file reference.bib (click the

Figure 1

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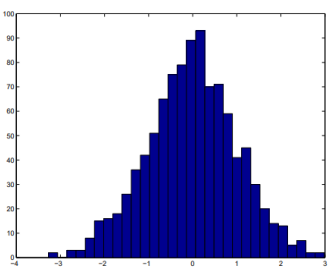


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Figure 2

When you use the `\clearpage` command:

```

1 \chapter{\texorpdfstring{MATHEMATICS}{}} %upper case only
2
3 \setcounter{equation}{0}
4 \numberwithin{equation}{section}
5
6 \section{Small figures}
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13 \includegraphics[width = 4.5 in ]{figures/figure.eps}
14 \caption{Caption of a figure.}\label{FigureLabel}
15 %\isucaption{abc def hij klm nopqrst uvwx yz abcdef ghijkl mnopqr
16 %stuvwxyz yz aaaa bbbb cccc
17 %gggggggggggg hhhhhhhhhh}\label{FigureLabel}
18 \end{figure}
19 \clearpage

```

Figure 3. Clear Page Command Code

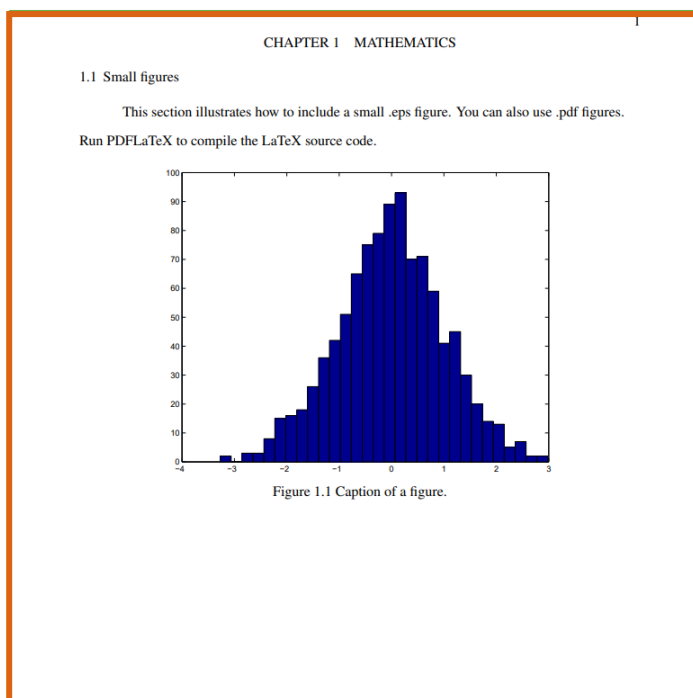


Figure 4. Example of Clear Page Command Result

5. How do I import/generate a table in LaTeX?

You can use this website: <https://www.tablesgenerator.com/> to generate LaTeX code for a table. Also, if you have a table in Excel that is saved as a csv file, you can import that (File-> Import CSV file-> Choose the file from the directory-> import) and then hit the Generate button. The LaTeX code will be generated under that.

The screenshot shows the Tables Generator website interface. The 'File' menu is open, highlighting 'Import CSV file...'. The main table has the following data:

	C	D	E
	Silvia's Notes	Topic Approval	Manuscript Submit
		Form Received	
		Form Received	
		Form Received	8/19/2022
5	Bills Caleb	Form Received	
6	Blair Bryce	Form Received	
7			
8			

The 'Generate' button is visible below the table. The resulting LaTeX code is shown in the 'Result' section:

```

1 \begin{table}[]
2 \begin{tabular}{lllll}
3 Last Name & First Name & Silvia's Notes & Topic Approval & Manuscript Submit \\
4 Allen & Roxanne & & Form Received & \\
5 Alvarez & Lorena & & Form Received & \\
6 Alwarsh & Ahoud & & Form Received & 8/19/2022 \\
7 Bills & Caleb & & Form Received & \\
8 Blair & Bryce & & Form Received & \\
9 & & & & \\
10 & & & & \\
11 \end{tabular}
12 \end{table}

```

Figure 5. Table Generator

6. My tables are small, and I want them to be side by side instead of one on top of the other. How do I do that?

If you want two or more tables to be side by side, then create only one table environment with multiple tables inside of it. For example, the following code will generate four tables across the width of the page (see next page).

```

\section{Making tables}
\begin{table}[htb]
\begin{minipage}{1.5 in}
\setlength{\captionwidth}{2 in}
\caption{Numbers}
\begin{tabular}{|c|c|c|}\hline
one & two & three \\ \hline
a & b & c \\ \hline
rose & is & red \\ \hline
\end{tabular}
\end{minipage}
\begin{minipage}{1.5 in}
\setlength{\captionwidth}{2 in}
\caption{Letters}
\begin{tabular}{|c|c|c|}\hline
one & two & three \\ \hline
a & b & c \\ \hline
rose & is & red \\ \hline
\end{tabular}
\end{minipage}
\begin{minipage}{1.5 in}
\setlength{\captionwidth}{2 in}
\caption{Flowers}
\begin{tabular}{|c|c|c|}\hline
one & two & three \\ \hline
a & b & c \\ \hline
rose & is & red \\ \hline
\end{tabular}
\end{minipage}
\begin{minipage}{1.5 in}
\setlength{\captionwidth}{2 in}
\caption{Colors}
\begin{tabular}{|c|c|c|}\hline
one & two & three \\ \hline
a & b & c \\ \hline
rose & is & red \\ \hline
\end{tabular}
\end{minipage}
\end{table}

```

```

17 \section{Making tables}
18 \begin{table}[htb]
19 \begin{minipage}{1.5 in}
20 \setlength{\captionwidth}{2 in}
21 \caption{Numbers}
22 \begin{tabular}{|c|c|c|}\hline
23 one & two & three \\ \hline
24 a & b & c \\ \hline
25 rose & is & red \\ \hline
26 \end{tabular}
27 \end{minipage}
28 \begin{minipage}{1.5 in}
29 \setlength{\captionwidth}{2 in}
30 \caption{Letters}
31 \begin{tabular}{|c|c|c|}\hline
32 one & two & three \\ \hline
33 a & b & c \\ \hline
34 rose & is & red \\ \hline
35 \end{tabular}
36 \end{minipage}
37 \begin{minipage}{1.5 in}
38 \setlength{\captionwidth}{2 in}
39 \caption{Flowers}
40 \begin{tabular}{|c|c|c|}\hline
41 one & two & three \\ \hline
42 a & b & c \\ \hline
43 rose & is & red \\ \hline
44 \end{tabular}
45 \end{minipage}
46 \begin{minipage}{1.5 in}
47 \setlength{\captionwidth}{2 in}
48 \caption{Colors}
49 \begin{tabular}{|c|c|c|}\hline
50 one & two & three \\ \hline
51 a & b & c \\ \hline
52 rose & is & red \\ \hline
53 \end{tabular}
54 \end{minipage}
55 \end{table}
56 \end{table}
57 \end{table}
58

```

Figure 6

1.2 Making tables

Table 1.1 Numbers			Table 1.2 Letters			Table 1.3 Flowers			Table 1.4 Colors		
one	two	three	one	two	three	one	two	three	one	two	three
a	b	c	a	b	c	a	b	c	a	b	c
rose	is	red	rose	is	red	rose	is	red	rose	is	red

Figure 7. Tables Side-by-Side

## 7. How do I comment out multiple lines in overleaf?

Select the chunk of code or lines you want to comment out. Then use **Ctrl + /** for Windows and **command + /** for Mac.

## 8. How to add a note to do something later?

Sometimes we want to add a note so that we can come back later and work on that. Use the following commands before the `\begin{document}`:

```
\usepackage{xcolor}
\newcommand\note[1]{\textcolor{red}{#1}\PackageWarning{MyWarnings}{#1}}
```

Then when you need to add a note, simply use the command `\note{}` and add your desired note inside the curly brackets. For example:

```
93 \subject{Algebra} % edit this for your area! Use broad terms
94 \keywords{Algebraic topology; Bayesian analysis} % be more
    specific here, separate keywords with semicolons
95
96 \usepackage{xcolor}
97 \newcommand\note[1]{\textcolor{red}
    {#1}\PackageWarning{MyWarnings}{#1}}
98
99 \begin{document}
100
101 \frontmatter % makes page numbers lower case roman
102
103 \maketitle % produce the title page using the information
    above
104 % don't worry if it says underfull line.
105
106 \copyrightpage % copyrighting your dissertation is optional
107
108 % the abstract is required. Edit the file in the frontmatter
    folder
109 \begin{abstract}
110 \note{Need to modify abstract later.}
111 \input{frontmatter/abstract}
112 \end{abstract}
```

ABSTRACT

Cornelius Hoffman, Committee Chair

**Need to modify abstract later.** Darth Vader: There is no escape. Don't make me destroy you. pauses Luke, you do not yet realize your importance. You have only begun to discover your power. Join me, and I will complete your training. With our combined strength, we can end this destructive conflict and bring order to the galaxy. Luke Skywalker: I'll never join you! Darth Vader: If you only knew the \*power\* of the dark side. Obi-wan never told you what happened to your father. Luke Skywalker: He told me enough! He told me \*you\* killed him. Darth Vader: No. \*I\* am your father.

Figure 8. Adding a Note

## 9. How to make a landscape orientation in LaTeX?

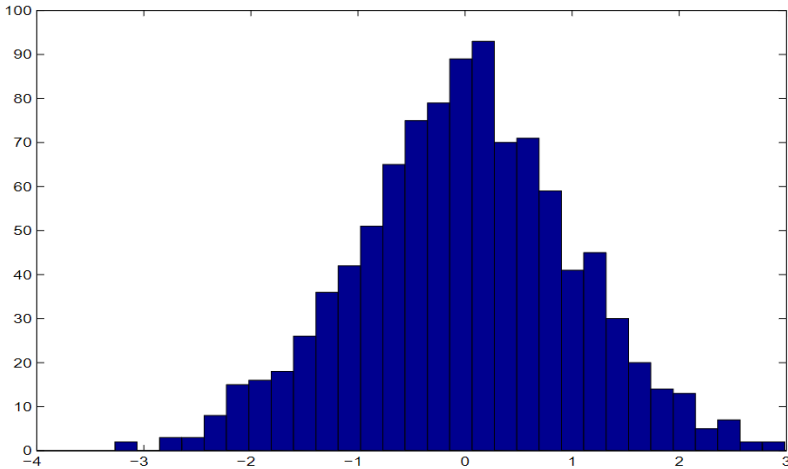
If sizing is a determining factor, tables or figures may require landscape placement on the page. These pages should be rotated so that the text is consistent with the portrait style pages, including the page number. Use the following commands for a landscape orientation in a particular page:

```
\begin{landscape}
\end{landscape}
```

```

56 It's not hard to incorporate very wide figures by making a
57 landscape page in the middle of the PDF. However, then you
58 need the page number to move, in order to stay in the upper
59 right corner. That is handled by special LaTeX code in the
60 following example.
61
62 \begin{landscape}
63 \thispagestyle{[scape]
64 \pagestyle{[scape]
65 \begin{figure}
66 \includegraphics[width=\linewidth,height=\textheight-1in]
67 {figures/figure.pdf}
68 \isucaption[]{}
69 \caption[Long caption to appear under the figure.]{Long
70 caption to appear under the figure. Make sure the figure
71 is small enough that the caption stays within the
72 margins. Note that the page number is still in the upper
73 right corner of the PDF file; this is how it needs to be,
74 so follow the code in chapter1.tex.}
75 \isucaption[Short caption for List of Figures]{Long
76 caption to appear under the figure. Make sure the figure
77 is small enough that the caption stays within the
78 margins. Note that the page number is still in the upper
79 right corner of the PDF file; this is how it needs to be,
80 so follow the code in chapter1.tex.}
81 \end{figure}
82 \end{landscape}
83
84 \section{Numbering definitions, theorems, and proofs}
85 This section illustrates the appearance of definitions,
86 theorems, proofs, and similar items in mathematical work.
87 When it says Definition 1.1, that means that it is the first
88 definition in Chapter 1, then Definition 1.2 is the second
89 definition in Chapter 1.
90 The section number is not part of the numbering.
91
92 There is a page break here to make it easier to start a
93 screen reader to hear how it reads the equations on the next
94 page.
95
96 \pagebreak
97
98 \begin{definition}
99 We say that a function  $f(x)$  is  $L$ -Lipschitz if for all  $x$  and  $y$  in its

```



3

Figure 1.2 Long caption to appear under the figure. Make sure the figure is small enough that the caption stays within the margins. Note that the page number is still in the upper right corner of the PDF file; this is how it needs to be, so follow the code in chapter1.tex.

Figure 9. Turning Page Landscape