

Common ISU LaTeX Thesis Problems

Also see the ISU LaTeX thesis manual: <http://css.ait.iastate.edu/Tex/Tex/isuthesis.pdf>

1. Be sure to add the List of Tables and/or List of Figures (and any other Lists) to your Table of Contents.
2. Be sure to add the Bibliography to your Table of Contents. Be sure it has capitalization to match all of the other top level and chapter headings. The method is in the LaTeX ISU template:

(from the biblio.tex file)

```
\renewcommand{\bibname}{\centerline{BIBLIOGRAPHY}}
\unappendixtitle
\interlinepenalty=300
% For no page break use thebibnpage environment \begin{thebibliography}{99} \addcontentsline{Table of Contents}{chapter}{BIBLIOGRAPHY}
```

Note: When a student is not using the bibliographic environment that is in the current template then they have to remember to do those items on their own.

3. Be sure to use `\isucaption` instead of the normal `\caption` command in a table or a figure (or you don't get the word "Table" or "Figure" in the List of Tables or List of Figures, which we require)
4. In LaTeX, with `\isucaption`, you can have a very long caption with the table or figure and you should have a shortened version of the caption appear in the List of Tables or List of Figures. The normal `isucaption` command looks like this:

```
\isucaption{Blah, Blah, Blah, Blah, Blah}
```

If you want a shortened version of the caption in the List of Tables or List of Figures, you need to put that version into a bracket before the text caption that appears in parentheses. So if you want to use `ZZZ` for your shortened version for the List of Tables or List of Figures, it would look like:

```
\isucaption[ZZZ]{Blah, Blah, Blah, Blah}
```

So "Blah, Blah, Blah, Blah" would be the actual text caption and "ZZZ" would be in the List of Tables or List of Figures.

5. If you have only one appendix, it should not have an A or I or 1 after the title, Appendix. The approach to a single appendix thesis design is a different than with a multiple appendix thesis. From page 9 of the ISUThesis manual for LaTeX (css.ait.iastate.edu/Tex/Tex/isuthesis.pdf): 1.) Don't use `\appendixtitle`. 2.) Use `\singleappendix` in place of `\appendix`. 3.) Use `\specialchapt{APPENDIX\ Title}` in place of the `\chapter` command for your appendix.

6. Be sure to check your PDF of your thesis for "Type 3 fonts," which are not allowed (<http://www.grad-college.iastate.edu/thesis/documents/PDF%20checking.pdf>).

If you find a Type 3 font error, there are 3 common problems causing Type 3 errors in LaTeX [Source: <http://www.ics.uci.edu/~chenli/pdf-font-types/index.html> (Accessed 30 May 2008)]:

If your PDF file includes Type 3 fonts, you should check the following to get rid of such fonts:

A. Use the right dvips option

Make sure to use the right options in the dvips command. Try the following:

```
dvips -t letter -Ppdf -G0 -j0 mypaper.dvi -o mypaper.ps
```

B. Missing fonts

If your LaTeX environment doesn't have all the necessary fonts used by your file, when you use dvips, it will produce a file called:

missfont.log

Check if this file exists. If it does, it means your environment misses some fonts, and needs to install them.

Check [this link](#) for more information.

C. Type 3 fonts from figures (xfig)

Often type-3 fonts are introduced from figures. In particular, I found that eps files produced by xfig can introduce type-3 fonts. In particular, according to <http://leon.bottou.com/nips/>,

* xfig "patterned" shapes are implemented with bitmap fonts.

Use "solid" shapes instead.

As an example, the following two xfig files both draw the same circle. The file "pattern.fig" uses a "patterned" shape to draw the circle, and its corresponding "pattern.pdf" is using a type-3 font. The file "solid.fig" uses a "slide" shape to draw the circle, and its corresponding "slide.pdf" is not introducing any type-3 font.

A circle using a patterned shape (type-3 font introduced)

[pattern.fig](#)

[pattern.eps](#)

[pattern.pdf](#)

A circle using a solid shape (type-3 font not introduced)

[solid.fig](#)

[solid.eps](#)

7. To avoid errors, the recommended way to creating PDFs with LaTeX for ISU theses is: use the pdflatex compiler, not the latex compiler.

Note: Many thanks to Joe Struss (I. T. Services) for the help solving these and other LaTeX problems over the years.