University of New Mexico

Thesis and Dissertation Style

unmeethesis, using LaTeX 2ε

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Purpose:

- Provide a LaTeX 2$_\varepsilon$ thesis and dissertation style sheet (`unmeethesis.cls`) that conforms to the standards set forth by the UNM Office of Graduate Studies, in terms of format and style.

- Provide the Master's or Doctoral student with sufficient information, via this seminar and associated manuals and documentation, to create a thesis or dissertation via LaTeX 2$_\varepsilon$.

Scope:

What will be covered:

- Using the LaTeX 2_ε `unmeethesis` style sheet for a thesis or dissertation at UNM (via departmental UNIX systems).

- Writing the thesis/dissertation on a PC (running LINUX or MikTeX).

What will **NOT** be covered:

- Many details of LaTeX 2_ε that are commonly found in reference books. For example, equation formatting, tables, bibliographies, etc.

What is LaTeX2_ε?

A document preparation system comprised of several individual components. Generates high-quality, well formatted text and graphical output. Ideally suited to technical and scientific applications.

What LaTeX2_ε is not...

LaTeX2_ε is **NOT** a word processor. It has no built-in text editor, page previewer, spell checker or output device drivers. In conjunction with these complementary programs, a LaTeX2_ε document can be edited, printed, and/or stored in several electronic formats such as PostScript, DVI, and Adobe$^{\circledR}$ PDF.

Where are the LaTeX 2_ε files on the UNM OGS Website?

To get to the UNM Office of Graduate Studies (OGS) website, use the following address:

`http://www.unm.edu/~ogshmpg`

Click "Thesis and Dissertation Guidelines" then scroll to the bottom of that page for a link to the "LaTeX Template and Style Files".

NOTE: Alternatively, the information can be accessed directly from this site:

`http://www.math.unm.edu/~nedoren/latex`.

Either way, the identical destination site is accessed. Thus, the files are always up to date regardless of the route of access.

What's on the Website?

- Required style sheets.

  (a) `unmeethesis.cls, unm12.clo` .

- Sample thesis.

  (a) `template.tex` .

- User manuals (in PostScript and `PDF`).

  (a) Thesis style manual.

  (b) $T_{\!E}XT_{\!I}P^S$ supplementary manual.

  (c) This slide presentation.

- Support documentation for $\mathrm{L\!A\!T_{\!E}X}\,2_{\varepsilon}$ packages and utilities (as discussed in the $T_{\!E}XT_{\!I}P^S$ manual.).

System Tools for LaTeX 2_ε

The following tools should be installed by your system administrator and made available to all users:

- The LaTeX 2_ε document processing software. (**NOT** LaTeX2.09)

- A text editor. (`emacs`, `vi`, `pico`, etc.)

- X-Windows "almost WSYWIG" screen previewer for compiled LaTeX output `.dvi` file. (`xdvi`, `xtex`, etc.)

- Translator for `dvi` to PostScript. (`dvips`)

- PostScript WSYWIG screen viewer. (`ghostview`)

System Tools (Continued)

The following tools should be installed by your system administrator and made available to all users:

- PostScript to Adobe$^{®}$ PDF converter. (ps2pdf, Distiller$^{®}$)

- "LATEX friendly" text-based spelling checker. (`ispell`)

- LATEX 2_ε enhancement packages. (`epsfig`, `psfrag`, `graphics`, etc.)

NOTE: These tools are described in the TEXTIPS document (`textips.ps or textips.pdf`) found on the UNM OGS website, or the mirror site: `http://www.math.unm.edu/~nedoren/latex` in the directory `user_manuals`).

	Programs to complement TeX
Program	*Purpose of the program*
dvips	Translates the compiled output of `tex` (i.e., the binary `.dvi` file) into the PostScript page description language (i.e., the ASCII `.ps` file). This program has both a man page and external documentation, which is in the file `dvips-5.58.dvi`.
xdvi xtex	Both are X-Windows screen previewers which provide an almost WSYWIG display of a compiled `tex` output file (i.e., the binary `.dvi` file). The only documentation for either of these programs is obtained by using the command `man` *program*. These man pages can be printed using the command `man -t` *program*. Note that `xtex` has *not* been kept up to date by its authors.
ghostview	An X-Windows screen previewer which provides an almost WSYWIG display of a PostScript file (i.e., the ASCII `.ps` file). The only documentation for this program is obtained by using the command `man ghostview`. These man pages can be printed using the command `man -t ghostview`.
ps2pdf DISTILLER™ pdftops	Programs for converting PostScript generated by `dvips` into (and back from) Adobe® PDF format. The Aladdin `ps2pdf` and Derek Noonburg's `pdftops` programs are freeware converters for both the Unix® and MS-Windows™ platforms. DISTILLER™ is available from Adobe® for MS-Windows™ (at a significant cost). It has been observed that DISTILLER™ produces a tighter (smaller) output PDF file, with no loss of output quality. Find `pdftops` at `http://www.foolabs.com/xpdf/` .
ispell	A spelling checker which is able to filter out most TeX and LaTeX 2_ε commands. This program also has non-English dictionaries and allows the user to build a personal dictionary. This program has both a man page and external documentation, which is in the file `ispell-3.1.dvi`.
bibcard	An X-Windows utility for simplifying the often daunting task of submitting bibliographic entries to the BibTeX database. Pull-down menus for book, article, thesis, conference and technical report citations are at the touch of the mouse. The source code for this freeware program compiles easily on most workstations and is available from ftp.iam.unibe.ch in directory `/pub/X11/Bibcard-1.0.tar.Z`.
emacs	A text editor that has a number of different editing modes, each well suited to a particular task. The editor has an extensive array of features, all of which can be customized by the user. Arguably the best text editor available on a Unix® platform. This program has both a man page and an *extensive* interactive help facility. The external documentation is in the file `emacs-19.22.dvi`.
AucTeX	This is not a program, but rather a macro package for `emacs`. It defines a new TeX/LaTeX 2_ε mode for `emacs` that allows all of the above programs to be used from within a single integrated environment. Furthermore, it defines power keys which expedite the entry of many TeX and LaTeX 2_ε commands. Those of you interested in this package will probably have to install it yourself. Documentation and installation instructions are in `auctex-9.3.dvi`. The ftp site is sunsite.auc.dk in `/packages/auctex/`.

Table 1: Auxiliary programs which complement TeX (taken from TeXTiPS manual).

Required Files for a UNM Thesis or Dissertation

The following files should be installed by your system administrator. Copies installed in your local working directory will take precedence.

- `unmeethesis.cls` ($\LaTeX 2_\varepsilon$ style sheet for a UNM thesis or dissertation).

- `unm10.clo`, `unm11.clo`, `unm12.clo` (size specification files. Only `unm12.clo` is required for strict OGS 12pt font compliance).

- `template.tex` (optional template that contains a complete, but short thesis example).

NOTE: These files are found on the UNM OGS website, or the mirror site:
`http://www.math.unm.edu/~nedoren/latex` in the directory `style_sheets`).

User manual for a UNM Thesis or Dissertation

Use of the thesis and dissertation style sheet `unmeethesis.cls` is covered in detail in the accompanying manual:

"Thesis, Dissertation and Technical Report Styles in $\LaTeX\,2_\varepsilon$ for the University of New Mexico", Second Edition, by James Howse and Neall Doren.

This manual (`styles.ps or styles.pdf`) is found on the OGS website, or alternatively,

`http://www.math.unm.edu/~nedoren/latex` in the directory `user_manuals`).

Disclaimer

IMPORTANT: Check with the Office of Graduate Studies (OGS) to ensure your thesis or dissertation meets all required publishing guidelines. Every effort has been made to ensure the `unmeethesis.cls` style meets the OGS publishing format. However, due to variations in $\mathrm{\LaTeX\,2_\varepsilon}$ implementations and printers, this is not guaranteed. It is **your** responsibility to ensure that all guidelines are met.

If you feel there is a serious formatting bug in the `unmeethesis.cls` style sheet, your contact is as follows:

Neall Doren, `nedoren@sandia.gov`

Email will be promptly answered (hopefully). Please try to avoid calling.

A Simple Example

This example uses the template file `template.tex`, which contains a simple, yet functional thesis, with all required front matter and an appendix.

Make sure you acquire the required files (from the `style_sheets` directory) and place in your working directory:

- `unmeethesis.cls, unm12.clo, template.tex`

This example assumes the system administrator has installed the necessary utilities.

From your UNIX prompt, you type (in italic):

`prompt%` *latex template.tex*   (compile)
`prompt%` *xdvi template.dvi*   (display)
`prompt%` *dvips -o template.ps template.dvi*
                              (create ps)
`prompt%` *ghostview template.ps*
                              (view PostScript)

Modifying the Example

This example may serve as the basis for your own thesis or dissertation. You may make the appropriate modifications and add to the content (obviously) to transform this example into your own paper.

Check with your department for the appropriate bibliography style (`APA, IEEE`, etc.,) and use the BIBTEX utility to create your bibliography (see references). The X-Windows utility `BiBCard` greatly simplifies the task of creating bibliography entries. This utility is discussed in the TEXTIPS manual found within the `user_manuals` directory.

References

[1] L. Lamport. *"LATEX : A document preparation system: User's guide and reference manual"*. Addison-Wesley Publishing Co., Inc., Reading, MA, 2nd edition, 1994.

[2] M. Goosens, F. Mittlebach, A. Samarin. *"The LATEX Companion"*. Addison-Wesley Publishing Co., Inc., Reading, MA, 1994.

[3] M. Goosens, S. Rahtz, F. Mittlebach. *"The LATEX Graphics Companion"*. Addison-Wesley Publishing Co., Inc., Reading, MA, 1997.

Some Detailed Examples...