STYLE FILES FOR ASCE-LIKE DOCUMENTS

Matthew R. Kuhn[1], Member, ASCE

ABSTRACT

This document was produced with the LaTeX typsetting program using the document class "`ascelike.cls`" and the example document "`ascexmpl.tex`". The objective is manuscripts that roughly comply with the guidelines of the American Society of Civil Engineers. The document class produces either double-spaced manuscripts for journal submissions or camera-ready manuscripts for conference proceedings. This document serves as a brief guide to `ascelike.cls`, as well as a test of the output that is produced by the input file `ascexmpl.tex`. The package is freely available under the LaTeX Project Public License, version 1.1

Keywords: LaTeX, ASCE, document class.

INTRODUCTION

The experimental document class "`ascelike.cls`" produces manuscripts that roughly comply with the guidelines of the American Society of Civil Engineers. However, it was *not* produced by ASCE, its agents, or employees; nor is it in any way sanctioned or approved by that organization. The program `ascelike.cls` is distributed under the terms of the LaTeX Project Public License Distributed, available from the CTAN archives; either version 1.1 of the License, or any later version. If you modify `ascelike.cls`, you should rename it so that "contaminated" copies are not later disseminated.

The document class "`ascelike.cls`" requires the following supplementary packages: `ifthen.sty`, `setspace.sty`, and `endfloat.sty` *Without these files,* `ascelike.cls` *won't work*. These files are typically included in LaTeX distribution, such as the tetex and MikTex distributions. All three files are also freely available from the Comprehensive TeX Archive Network (CTAN) archive, through `//http:www.tug.org`, but they may need to be unbundled from a `*.dtx` form. In addition, the file `ascelike.bst` can be used with the tool BibTeX to produce ASCE-like reference citations and entries (with the weird use of quotation marks around titles, etc.). An example bibliographic data base is given in `ascexmpl.bib`.

[1]Dept. of Civ. and Env. Engrg., School of Engrg., Univ. of Portland, 5000 N. Willamette Blvd., Portland, OR 97203. E-mail: kuhn@up.edu.

In addition to these important files, we have found the following packages most useful (and we'll use this opportunity to illustrate a LaTeX itemized list):

- epsfig.sty and its companion files for incorporating encapsulated postscript (figure) files into the document
- subfigure.sty for arranging and numbering subfigures
- amstex.sty and its companion files for the AMS extensions to mathematical formatting.

All of these packages are also freely available from the CTAN archive, but they are included in most LaTeX distributions.

INPUT AND OPTIONS

Prepare your *.tex input file as a regular LaTeX file using the standard article.cls constructs, but, of course, substitute ascelike for article as the document class. You will, however, likely need to specify a number of options. In addition, I've provided two new commands: KeyWords and NameTag, both of which are described further below. Document class ascelike.cls has a the options given below (and we'll also use this opportunity to illustrate an enumerated list). The Proceedings|Journal options are the most important; the other options are largely incidental.

1. Journal|Proceedings specify the overall format of the output manuscript.

   Journal produces double-spaced manuscripts for ASCE journals. It places tables and figures at the end of the manuscript, and produces lists of tables and figures. It numbers the appendices with Roman numerals and produces proper headings for sections, subsections, subsubsections, appendices, and abstract. It produces the proper page margins and numbers the pages.

   Proceedings produces camera-ready single-spaced manuscripts for ASCE conference proceedings. It produces the proper page margins as given on the old shiny, camera-ready paper (with the light blue lines) supplied by ASCE. It places figures and tables within the text. It produces proper headings for sections, subsections, subsubsections, appendices, and the abstract. Pages are numbered, and the bottom left corner can be "tagged" with the author's name (this can be done by inserting the command \NameTag{<*your name*>} within the preamble of your document.
2. BackFigs|InsideFigs can be used to override the default placement of tables and figures in the Journal and Proceedings formats.
3. SingleSpace|DoubleSpace can be used to override the default text spacing in the Journal and Proceedings formats.
4. 10pt|11pt|12pt can be used to override the default text size (12pt).
5. NoLists suppresses the inclusion of the lists of tables and figures that would normally be included in the Journal format.

FIG. 1. An example figure (just a box). This particular figure has a caption with more information than the figure itself, a very poor practice indeed.

TABLE 1. An example table

Assembly Attribute (1)	Values (2)
Number of particles	4008
Particle sizes	Multiple
Particle size range	$0.45D_{50}^{*}$ to $1.40D_{50}$
Initial void ratio, e_{init}	0.179
Assembly size	$54D_{50} \times 54D_{50} \times 54D_{50}$
$*$ D_{50} represents the median particle diameter	

6. `NoPageNumbers` suppresses the printing of page numbers.

SECTIONS, SUBSECTIONS, EQUATIONS, ETC.

I've included this section to test the formating of sections, subsections, subsubsections, equations, tables, and figures. Section heads are automatically made uppercase, which is great unless your section heading contains mathematics, `$<math stuff>$`. If your head does contain mathematics, you will need to modify `ascelike.cls`, in particular the line containing the `\uppercase` command.

An Example Subsection

No automatic capitalization occurs with subsection headings; you'll need to capitalize the first letter of each word, as in "An Example Subsection."

An example subsubsection

No automatic capitalization occurs with subsubsections; you'll need to capitalize only the first letter of the subsubsection heading. And now we include an example of a displayed equation (Eq. 1)

$$E = mc^2 \; , \tag{1}$$

a figure (Fig. 1), and a table (Table 1).

I've added a new command `\KeyWords{<your key words>}` for a labeled list of key words. It can be placed anywhere in the document and produces an unindented paragraph.

CITATIONS AND BIBLIOGRAPHIC ENTRIES

When used together, `ascelike.cls` and `ascelike.bst` produce APA / *Chicago Manual of Style* citations in name-date format. The code for this format is a modification of the `chicago.sty` and `chicago.bst` packages. I've made available the following citation options:

- `\cite{key}` produces citations with full author list and year (Ireland 1954).
- `\citeNP{key}` produces citations with full author list and year, but without enclosing parentheses: eg. Ireland 1954.
- `\citeA{key}` produces citations with only the full author list: e.g. (Ireland)
- `\citeN{key}` produces citations with the full author list and year, but which can be used as nouns in a sentence; no parentheses appear around the author names, but only around the year: eg. Ireland (1954) states that ...
- `\citeyear{key}` produces the year information only, within parentheses, as in (1954).
- `\citeyearNP{key}` produces the year information only, as in 1954.

The example bibliographic data base `ascexmpl.bib` gives examples of bibliographic entries for different document types. These entries are from the canonical set in the ASCE web document "Instructions For Preparation Of Electronic Manuscripts": an anonymous book (Moody 1988), an anonymous report (Federal 1991), an anonymous newspaper story ("Educators" 1993), an ASCE journal paper (Pennoni 1992), a book with editors (Zadeh 1981), a building code (International 1988), a discussion (Vesilind 1992), a doctoral thesis (Chang 1987), a paper in a foreign journal (Ireland 1954), a paper in a proceedings (Eshenaur et al. 1991), a standard (ASTM 1991), a translated book (Melan 1913), a two-part paper (Frater and Packer 1992a; Frater and Packer 1992b), a university report (Duan et al. 1990), an untitled item in the Federal Register (Federal 1988), works in a foreign language (Duvant and Lions 1972; Reiffenstuhl 1982), and software (Lotus 1985).

MISCELLANY

Many ASCE conference proceedings are now published on CD ROM media. I've noticed that instructions on paper formats issued by conference organizers often differ from the standard ASCE instructions. Fortunately most of the differences can be easily accomodated, such as changes in the margins and placement of the authors' addresses. As for margins, these can, of course, be altered by using `\setlength{<length>}` commands within the preamble to a document without making any changes to `ascelike.cls`. (See the LaTeX book (Lamport 1994), its companion (Goossens et al. 1994), or online web documentation.) Authors' addresses can be placed below the title (instead of in a footnote) by *not* using the `\thanks` command.

REFERENCES

ASTM (1991). "Standard practice for the use of the international system of units (SI) (the modernized metric system)." *E 380-91a*, Philadelphia, Pa.

Chang, T. C. (1987). "Network resource allocation using an expert system with fuzzy logic reasoning," Phd thesis, University of California at Berkeley, Calif.

Duan, L., Loh, J. T., and Chen, W. F. (1990). "M-P-f-based analysis of dented tubular members." *Struct. Engrg. Rep. No. CE-STR-90-27*, School of Civ. Engrg., Purdue Univ., West Lafayette, Ind.

Duvant, G. and Lions, J. L. (1972). *Les inéquations en méchanique et en physique.* Dunod, Paris, France. (in French).

Eshenaur, S. R., Kulicki, J. M., and Mertz, D. R. (1991). "Retrofitting distortion-induced fatigue cracking of non-composite steel girder-floorbeam-stringer bridges." *Proc., 8th Annual Int. Bridge Conf.*, Engineers' Soc. of Western Pennsylvania, Pittsburgh, Pa. 380–388.

Federal Register (1988). 33(No. 146; July 27), 10756.

Federal Highway Administration (FHWA) (1991). *Evaluating scour at bridges.* Rep., Hydr. Engrg. Circular No. 18: FHWA-IP-90-017, Washington, D.C.

Frater, G. S. and Packer, J. A. (1992a). "Weldment design for RHS truss connections. I: Applications." *J. Struct. Engrg.*, ASCE, 118(10), 2784–2803.

Frater, G. S. and Packer, J. A. (1992b). "Weldment design for RHS truss connections. II: Experimentation." *J. Struct. Engrg.*, ASCE, 118(10), 2804–2820.

Goossens, M., Mittlebach, F., and Samarin, A. (1994). *The LaTeX Companion.* Addison–Wesley Pub. Co., Reading, Mass.

International Conference of Building Officials (1988). *Uniform building code.* Whittier, Calif.

Ireland, H. O. (1954). "Stability analysis of Congress Street open cut in Chicago." *Géotechnique*, London, England, 4(4), 163–168.

Lamport, L. (1994). *LaTeX: A Document Prepartation System User's Guide and Reference Manual.* Addison–Wesley Pub. Co., Reading, Mass.

Lotus 1-2-3 reference manual; release 2.01 (1985). Lotus Development Corp., Cambridge, Mass.

Melan, J. (1913). *Theory of arches and suspension bridges.* Myron C. Clark, Chicago, Ill. D. B. Steinman, translator.

Moody's municipal & government manual (1988). Moody's Investors Service, New York, N.Y.

Pennoni, C. R. (1992). "Visioning: the future of civil engineering." *J. Profl. Issues in Engrg. Education and Practice*, ASCE, 118(3), 221–233.

Reiffenstuhl, H. (1982). "Das vorspannen von bewehrung auf druck: Grundsaetzliches und anwendungsmoeglichkeiten [prestressing of reinforcing in compression: fundamentals and application possibilities]." *Beton-und Stahlbetonbau*, Berlin, Germany, 77(3), 69–73. (in German).

Vesilind, P. A. (1992). "Discussion of 'Guidance for engineering-design-class lectures on ethics,' by Richard H. McCuen." *J. Profl. Issues in Engrg. Education and Practice*, ASCE, 118(2), 214–215.

Zadeh, L. A. (1981). "Possibility theory and soft data analysis." *Mathematical frontiers of the social and policy sciences*, L. Cobb and R. M. Thrall, eds., Westview Press, Inc., Boulder, Colo., 69–129.

APPENDIX I. NOTATION

The following symbols are used in this paper:

D = pile diameter (m);
R = distance (m); and
$C_{\text{Oh no!}}$ = fudge factor.