Although the LATEX manual is a useful book, it is not suitable as an introduction, as a book for beginning users. ‘LATEX for engineers and scientists’ by David J. Buerger, which was published this year, at first sight appears to be a good introduction. In the preface the author writes: ‘[this book] was written to provide a fast and easy way to learn how to produce technical documents with LATEX.’ And indeed, ‘LATEX for engineers and scientists’ is a book that doesn’t frighten readers by its length and is easy to read. It describes BIBTEX and MakeIndex, it gives exercises ± with answers ± that are really not bad, and it contains an index ± although I find that a bit short ± and a glossary.

Unfortunately my general opinion about this book is not positive: both the contents of the book and the quality of the book as a printed product leave a lot to be desired. My overall impression of the contents of the book can be summarized in a few points.

- The author has not quite grasped the concept of a document style and the separation between logical and visual structure, two fundamental concepts of LATEX.
- The author does not distinguish between LATEX proper and LATEX plus the standard document styles. There are many document styles beside the standard ones, so this distinction is essential.
- In several examples LATEX and TEX commands are mixed. My opinion is that in examples only LATEX commands should be used. If the author insists on mentioning the TEX equivalents, he should explain what sort of functionality LATEX adds.
- Some functions of LATEX, among which at least one important function, are not explained in the book.
- Explanations in the book are sometimes confusing or sloppy. In a few cases they are even incorrect.

I will give some examples:

- In chapter 4, Formatting environments, the author starts with the center, flushleft and flushright environments, and then goes on to treat the list and quotation environments. The main purpose of LATEX’s markup instructions is describing the logical structure of the text. In a book on LATEX, descriptions of logical design should come before descriptions of visual design.
- The custom description list on p. 28 refers to layout parameters of the list environment that cannot be found in the index or the glossary. Although the author includes in his book instructive page-layout diagrams that are unfortunately absent in the LATEX manual, he forgets to include the equally useful list-layout diagram that is printed on p. 113 of the LATEX manual.
- The custom description list given as an example on p. 28 is a variation on the description environment described in the LATEX manual. In this example the items are typed as \item{\textbf{Fox}}; as a result there is no clear separation between form and contents. A better way would be to define the layout of the items in the definition of the customised list. That way, one only has to type \item{Fox}.
- On p. 39 the author gives a table of the typeface sizes that correspond to LATEX commands such as \small, \normalsize and \large. The correspondence given in the table is valid only for the standard document styles and not for every document style. By failing to make this distinction, the author suggests that the table is universally valid, which it isn’t.
- In chapter 6 the author treats only the $ ... $ and not the \( ... \) construction for in-line mathematical formulae. $ ... $ and $$ ... $$ give formulae in a more or less fixed layout. If one uses LATEX’s \( ... \) and equation environment instead, the user lets the document style control the formula layout. Furthermore, the LATEX notation for formulae has opening and closing tags that are not identical, which results in fewer errors.
- In chapter 7, on p. 52, the author introduces the \texttt{\lefteqn} command without any explanation. This is a command that a lot of users find confusing; they often think that \texttt{\lefteqn} puts an equation flush with the left margin of the text.
In chapter 8 the author gives a confusing description of the two environments `table' and `tabular'. The `tabular' environment produces a table, i.e. an arrangement of cells in rows and columns, possibly with horizontal and vertical rules\footnote{An imprecise definition of a table, I know!}. The `table' environment creates a floating object, i.e. a part of the document for which \LaTeX{} tries to find a good place to print it. In most cases, the `table' environment contains a caption that starts with the word `Table'\footnote{To be precise: this is specified by the document style, but it should be `Table' or something equivalent.} and a `tabular' environment for the actual table contents. However, Buerger writes (italics mine):

``
Tables created with the `tabbing' or `tabular' environments—... The `\begin{table}' or `\begin{figure}' command will create a table or figure.
``

On p. 64 the author explains the use of `\label' and `\ref'. He instructs the reader to put the `\label' command after sectional-unit commands and after the `\caption' command of a `figure' or `table' environment. However, there is no information on where to put the label in `equation' and `eqnarray' environments.

In chapter 10, Organizing a document, the author uses in an example

``
\topmargin 0mm
\def\BibTeX{...
``

instead of the \LaTeX{} equivalents

``
\setlength{\topmargin}{0mm}
\newcommand{\BibTeX}{...
``

In chapter 10 the author fails to distinguish between \LaTeX{} proper and the standard document styles. On p. 68 the author writes:

``
Title information is automatically centered.
``

and (italics by the author):

``
You can produce an abstract placed below the title information ... by typing the following command before the `\maketitle' command.
``

In both cases the behaviour the author describes is that of the standard document styles: in other document styles a title could be left-justified and emphasized phrases could be printed in a boldface font. In the second case, the author is also definitely wrong since the `\maketitle' command defined in the standard document styles does not print the abstract, but only the title, author and date.

The author is also inconsistent with notation: for example, in pages vii-xiii, the table of contents, list of figures and list of tables, I found `\LaTeX{}', `\LaTeX{}' and `La\TeX{}'! I sometimes got the feeling that the book was written or at least finished in some haste.

Some examples of features of \LaTeX{} that are missing in `\LaTeX{} for engineers and scientists'.

\begin{itemize}
  \item The author writes that the `\include' command is similar to the `\input' command, except that it starts on a clean page. He doesn’t mention one of the nicest mechanisms in \LaTeX{}: cross-referencing between sub-documents if some of the sub-documents are excluded from the current formatting run by means of `\includeonly'.
  \item The only information on \TeX{}’s units was the sentence ‘There are 72.27 points to an inch’, and I found it in the chapter on error messages!
  \item One of the sample input files contains the `\;' command, without explanation and without treating other similar commands.
\end{itemize}

So far, I have only criticized the author. However, I think the publisher of this book, McGraw–Hill, can be blamed for a few things as well. Concerning the quality of the book as a printed product: the book was produced from camera-ready pages prepared by the author on a laser printer. Computer Modern is a good typeface, if only you use it on a printing device of sufficiently high quality. Laser printer quality is, I’m afraid, not good enough and I hope this book is one of the last books on \TeX{}-related matters produced in such a way. As for the contents of the book: it seems likely that McGraw–Hill did not ask an expert to review the book, otherwise they would have asked the author to rewrite parts of it.

`\LaTeX{} for engineers and scientists’ is not a bad book, but it is not a good book either. It can be used, but I can’t really commend it.