National Research Council Research Press

LaTeX User Guide for Journals[1]

1 Basic coding

All LaTeX documents must include these three commands:

```
\documentclass{...}
 ...                    <-- 'preamble'
\begin{document}
 ...                    <-- 'body'
 ...
\end{document}
```

1. The `documentclass` must be specified, either with a generic package, such as `article` or a specific package, such as `nrc1`).
2. Between the first two commands comes the material known as the 'preamble', which includes additional packages (and their options), as well as any file-specific macros.
3. Between the 2nd and 3rd commands comes the actual contents of the article — known as the 'body' of the file.

Commands are usually of the following types:

1. **control sequences** begin with a backslash (\ ).
2. **environments** use matching `\begin{...}` and `\end{...}` commands (i.e., `\begin{document}` must eventually be matched with `\end{document}`).
3. **optional** arguments are within square brackets `[...]`

2 Document classes and options

NRC journals are set either in full-width, using the `nrc1` class, or in 2-column format, using the `nrc2` document class.

The following represent the options for both document classes. Note that most articles will **not** require all of them; as well, some options are only for `nrc2`.

```
\documentclass[<options here>]{<class here>}
                 author             nrc1
          PLUS     usecmfonts    OR nrc2
           OR      type1rest
                 french
                 nonumbib
 nrc1 only:      leqno
 nrc2 only:      reqno
```

[1]This document is available from your local CTAN site in `macros/latex/contrib/supported/nrc/` in both `.ps` and `.pdf` formats.

To combine options, insert a comma between each option:

```
\documentclass[type1rest,genTeX,nonumbib]{nrc2}
```

The following sections describe the options available to both classes, and then those options which are specific to `nrc1` or `nrc2` only. Options specific to in-house production work are described separately; see section 6.

2.1 Options for both classes

Note: Do not load options or packages which are never accessed; their presence implies they are required and may cause unnecessary searches for coded material which is not, in fact, present.

For the convenience of authors, the publicly available class files for authors have a number of options already automated:

```
author,genTeX,type1rest,usecmfonts
```

Additionally, a number of in-house diagnostic messages are turned off, so as not to interfere with processing. Where a default selection is not appropriate, the following provides information on these options.

`author` This option selects a configuration appropriate for author use of the class; it is enabled by default when a publicly distributed copy of the class is loaded.

The `author` option automatically invokes the `genTeX` option, as well as one of the two font options: `type1rest` or `usecmfonts`. See below for details.

`genTeX` By use of this option, you declare that you are using a generic/public domain version of TeX; it **must** be used in conjunction with one of `usecmfonts` and `type1rest` (see below).

The `author` option automatically selects the `genTeX` option.

`type1rest` By use of this option, you declare that you have access to a PostScript printer or other interpreter, and may use "basic" PostScript fonts to make a rough approximation to those that will be used in the published paper. Do not use this option in combination with the `usecmfonts` option.

If the `author` option has been selected, the class will automatically decide whether to use `usecmfonts` or `type1rest` by default. The automatic selection may be incorrect, but you may over-ride it by specifying the `type1rest` option.

`usecmfonts` By use of this option, you declare that you do not have the "basic" PostScript fonts to make a rough approximation to those that will be used in the published paper: the `cm` (*Computer Modern*) fonts that this option selects are available in any generic/public domain TeX distribution, so this option will always be available. Do not use this option in combination with the `type1rest` option.

If the `author` option has been selected, the class will automatically decide whether to use `usecmfonts` or `type1rest` by default. The automatic selection may be incorrect, but you may over-ride it by specifying the `usecmfonts` option.

`french` For French-language articles. It configures the NRC document classes to print all the automated textual elements (in the author IDbox, for figures, tables, bibliographies, etc.) in French as per NRC specifications. To be used in concert with:

```
\usepackage[english,french]{babel}
```

See section 3.1 for details on using the babel package in all articles, regardless of language. For two-column bilingual texts, see section 6.9.1.

`nonumbib` This option removes numbers (i.e., 'labels') from `\bibitem` entries; material is set with a hanging indent. The default is to have numbered bibliographic entries.

2.2 Options specific to only one class

`leqno` for `nrc1` only

This option puts equation numbers to the left margin; default is to have them on the right.

`reqno` for `nrc2` only

This option puts equation numbers to the right margin; default is to have them on the left.

One other difference between the packages relates to the position of the `\maketitle` command. See page 5 for details.

3 The preamble

The preamble area of the file should specify all packages and macros definitions (if any) used; macros in particular should not be defined within the body of the file.

3.1 Useful packages

The following packages and their options are often necessary (but note that babel is necessary at all times). Note that package order can be significant, on occasion. In particular, it is recommended that graphics packages be loaded immediately after the document class.

`\usepackage{graphicx}` Graphics (figures, illustrations, and so on) should be included using the standard LaTeX `graphicx` package: use of this package permits portability across different implementations of TeX (which itself has no graphics primitive commands).

Your TeX/LaTeX system may offer documentation; otherwise see *The LaTeX Graphics Companion* (see section 5.1).

Remember to specify the printer driver as a package option, if necessary (e.g., `dvips`, `dvipsone`, etc.).

`\usepackage[figuresright]{rotating}` The `rotating` package[2] is only required when tables or figures need to be placed in landscape ('sideways') position. It must be preceded by the `graphicx` package.

The `figuresright` option ensures that rotated elements are oriented with the caption at the left margin of the regular page, in accord with NRC style requirements.

`\usepackage{amsmath}` A great deal of additional functionality is provided with this package, and the NRC document classes have been designed to work smoothly with it. Using `amsmath` automatically loads the following packages: `amstext`, `amsgen`, and `amsbsy`. The `amsmath` package is described in great detail in three documents:

1. The revised version of chap. 8 of *The LaTeX Companion* is a good guide (see section 5.1 for details). As printed in the book, chap. 8 is out of date and should not be referenced.
2. A useful set of documentation is available via the AMS's web site. URL `http://www.ams.org/tex/amslatex.html` offers a "Short Math Guide", a set of frequently asked questions (with answers), as well as various "Readme" files.
3. Current LaTeX installations have a file `amsldoc`; it is also available via the AMS web site (see above). The material is essentially the same as the revised chap. 8 mentioned above, but the differences in presentation are sometimes useful to consider.

`\usepackage{amssymb}` This package automatically loads the `amsfonts` package. Together, they provide special characters and symbols frequently used by the mathematics and scientific communities.

The `amsfonts` package provides access to the following font sets: Euler (Fraktur, Roman, Script, extensions); Computer Modern (math bold italic, symbol, extensions, in the smaller sizes); Cyrillic (lightfact, bold, italic, smallcaps); and the `msam` and `msbm` fonts, familiar to RevTeX users.

[2]For the NRC's production use, the standard distribution version of this file is currently under revision. Authors can proceed with the public version of `rotating.sty`.

`\usepackage{bm}` This package simplifies the use of bold symbols and other objects in math mode. It defines a single command, `\bm{...}`, which is used in math mode, and causes its argument to be typeset in the appropriate math bold font. See `bm.sty` documentation for details.

Note: If a warning message about too many math alphabets arises, insert the following code **above** the `\usepackage{bm}` line:

```
\newcommand\hmmax{0} % default 3
\usepackage{bm}
```

See `bm.sty` documentation for details.

`\usepackage{cite}` Authors should use this package, which enhances the default options available in LaTeX (e.g., `\citen` prints cross-references without brackets). See `cite.sty` documentation for additional features.

`\usepackage[...,...]{babel}` The babel package is used to manage the typesetting requirements of multilingual documents. Different cultures have different typesetting conventions, and babel enables the LaTeX user to apply the appropriate conventions to the different parts of a multilingual document. Since NRC publications are typically multilingual, babel has an important rôle to play in their preparation.

- English-language articles have a French-language 'Resumé', which requires French hyphenation and punctuation. Insert the following line — and notice the order of the language options:

  ```
  \usepackage[french,english]{babel}
  ```

- French-language articles have an English-language 'Abstract', which requires English hyphenation and punctuation. Insert the following line and again notice the order of the language options:[3]

  ```
  \usepackage[english,french]{babel}
  ```

  In addition to the babel package, French-language articles must **also** include the `french` option to the document class, as mentioned earlier in section 2.1.

  The babel package invokes French hyphenation patterns[4] as well as some of the (European) French typesetting conventions (e.g., space before some punctuation).

These packages and others can be found either on your machine or can be acquired from CTAN, the Comprehensive TeX Archive Network; use the search facilities at `www.ctan.org/search`. The NRC document classes and this documentation can be found on CTAN in `macros/latex/contrib/supported/nrc/`.

[3] Babel, like so many computer programs, believes that the last should be first, and therefore proceeds backwards through its options, thus making the last one typed the one selected first.

[4] Use `\-` to signal additional potential hyphenation points.

3.2 Additional macros

1. Avoid creating too many personal macros, which may conflict with the NRC document classes (and possibly with other packages) and thereby slow in-house processing of files. Where these are used, macros not actively invoked in the file should be pruned out.
2. Whenever possible, define your macros using the LaTeX `\newcommand` mechanism, rather than the TeX primitive `\def`; this way, LaTeX itself will detect any name clashes you may innocently introduce.
3. Move all non-NRC preamble material, including author macros, to the end of the file (after `\end{document}`), rather than deleting it. Reintroduce only what is needed.
4. Where author macros are needed, they should all be gathered at the top of the file in the preamble area, after all packages have been loaded, and clearly marked as being author macros:

   ```
   %%%%%%%% Author macros begin:
   ...
   ...
   %%%%%%%% Author macros end
   ```

5. Similarly, move all `\let` statements to the preamble area, where they are immediately visible to the editor.

4 The body

All articles have the following elements:

1. titleblock and author information
2. abstract and resumé
3. headings and subheadings
4. text
5. bibliography

Most articles also include some or all of the following elements:

1. in-line and display mathematics
2. enumerated lists
3. tables
4. figures and illustrations (e.g., PostScript)
5. footnotes
6. offset quoted passages
7. acknowledgements

4.1 Titleblock and author information

All elements of the titleblock are taken care of via macros, some of which have optional arguments, to allow for variant forms and for 'labelling' of bits of text (for cross-referencing).

`\title{...}`

Lines will be broken automatically; line breaks can be forced by using `\\`.

For sub- and superscripts, use `\textsubscript` and `\textsuperscript`, respectively.

Notes on the title may be inserted using the standard LaTeX command `\thanks`. The text will print in the IDbox, and numbering will be synchronised with that of the IDbox notes.

`\author[...]{Author1}`

Author1's name as it will appear in the titleblock and the right running head. The optional argument allows a different form of the author's name to appear in the IDbox at page-bottom (e.g., full first name in titleblock, but initials only in IDbox).

Each author is specified separately. The document class will automatically insert 'and' (Fr. 'et') between the last and second-last names, both in the titleblock and in the IDbox area.

`\address[label1]{addr1}`

Address for *Author1*; this should be immediately below the `\author` entry. Each author's address is specified separately. If no address is specified before the next author entry, the immediately preceding address is used (an address for the first author **must** therefore be specified).

The optional `[label1]` argument (any sequence of letters can be used) does not print anything; it makes it possible to relate one address to several authors (this is similar to LaTeX's `\label` and `\ref` commands).

Below is an example of using the author-address cross-referencing macros. Notice that `\address` always refers to the immediately preceding `\author`.

`\author{Author1}` defines first author

`\address[label1]{Address1}` defines an address for *Author1* and tags it as `[label1]`

`\author{Author2}` this author doesn't have an address, so the IDbox will use the immediately preceeding author's address (i.e., *Address1*

`\author{Author3}` defines a third author

`\address{Address3}` third author is at an address of their own

`\author{Author4}` defines a fourth author

`\address[label1]` fourth author uses the address associated with `[label1]`, above

The net result (assuming the `breakaddress` option has been used) is the following:

Author1, Author2, and Author4.
Address1.

Author3.
Address3.

IDbox address notes

Author addresses can be augmented with additional information via numbered notes, which appear below all the authors' names and main addresses.

`\correspond{...}`

Usually one author is selected from all co-authors to deal with correspondence. Insert the author's e-mail address into the argument. The following text will be prepended: 'Corresponding author (email:).' and in French, 'Auteur correspondant (courriel :)'.

`\present{...}`

Authors may wish to indicate a temporary or current address, different from the main one provided via `\address`. This note will begin with the text: 'Present address:' (Fr. 'Adresse actuelle :').

`\AddressNote{...}` Obsolete. See `\IDnote`, below.

`\IDnote{...}`

Allows the user to input any information they wish, with no automatic text being added (formerly called `\AddressNote`, which implied a more restricted use). Both macros are available but `\IDnote` gives the user a more generic macro name to remember and use for any type of note within the IDbox.

`\dedication{...}`

Will print a dedicatory text (in italics) in the IDbox area, between the 'Received/Accepted' and the author/address sections.

`\abbreviations{...}`

Automatic printing of the word '*Abbreviations:* ' (Fr. '*Abbréviations :* '), followed by text input inside the argument (the curly braces). Forced line breaks (via `\\`) can be used to separate entries.

`\shortauthor{author list}`

Shortened list of author names for use in the right running header. This macro must be present (its absence generates an error message), and should appear below all the author-address information

`\maketitle`

This command activates the titleblock commands.

The `nrc1` class requires this command to appear **before** the abstract/resumé block of text.

The `nrc2` class requires this command to appear **after** the abstract/resumé block of text.

`\maketitle*` [an NRC macro]

With the `nrc2` class only, when Abstracts/Resumes spill over to a second page, a horizontal rule may be needed before the regular article text begins. To generate this rule use `\maketitle*` instead of `\maketitle`.

4.2 Abstracts/Résumés

The syntax is the normal one expected for environments: a matched set of either `{abstract}` or `{resume}`:

`\begin{abstract} ... \end{abstract}` English

`\begin{resume} ... \end{resume}` French

Some journals may require the following, which should appear **inside** the abstract environments:

`\keywords{...}` [an NRC macro]

Automatically prints '*Keywords:*', followed by whatever text is input inside the argument (the curly braces).

`\motscles{...}` [an NRC macro]

Automatically prints '*Mots clés :*', followed by whatever text is input inside the argument (the curly braces).

`\PACS{...}` [an NRC macro]

Automatically prints 'PACS Nos.:' (Fr. 'PACS N^{os} :'), followed by whatever material is input inside the argument.

`\PACS*{...}` [an NRC macro]

Automatically prints 'PACS No.:' (Fr. 'PACS N^{o} :'), followed by whatever material is input inside the argument.

4.3 Headings and subheadings

Five levels, numbered automatically.[5] Line breaks can be forced by using `\\`. To suppress numbering (e.g., for 'Acknowledgements'), use an asterisk before the opening curly brace: `\section*{Acknowledgements}`.

For sub- and superscripts in section titles, use the macros `\textsubscript` and `\textsuperscript`, respectively.

1. `\section{...}` Level-1 heading
2. `\subsection{...}` Level-2 heading
3. `\subsubsection{...}` Level-3 heading
4. `\subsubsubsection{...}` Level-4 heading [NRC]
5. `\paragraph{...}` Level-5 heading

[5] An alternate set of headings commands also exists: `\Asection`, `\Bsection`, `\Csection`, `\Dsection`, and `\Esection`, for levels 1 through 5, respectively.

4.4 Text

Same as the default LaTeX commands:

`\begin{quote} ... \end{quote}`

`\begin{enumerate} ... \end{enumerate}`

`\begin{itemize} ... \end{itemize}`

`\begin{description} ... \end{description}`

`\footnote{...}`

Where lists must be flushed to the left margin, there are two NRC-specific environments to use:

`\begin{flenumerate} ... \end{flenumerate}` [NRC]

Generates a numbered list (first level only) with labels flushed to the left margin. No nesting possible.

`\begin{flitemize} ... \end{flitemize}` [NRC]

Generates a bulletted list (first level only) with labels flushed to the left margin. No nesting possible.

4.4.1 Column switching in `nrc2`

On occasion, material for 2-column journals is best set full-width, interrupting the two text columns. For equations, the following customized code will achieve this effect:

```
\begin{FullWidth}[0.5]
\LeftColumnBar
   <equation to span both columns>
\RightColumnBar
\end{FullWidth}
```

The following description provides details of each step:

`\begin{FullWidth} ... \end{FullWidth}` This environment encloses the material which is to span the two columns. The text for the two columns immediately above this environment will be balanced. Text immediately below the environment will resume the 2-column layout.

The optional `[0.5]` argument ('one half' in this example) is an adjustment factor, affecting the split between left and right columns. Default is '1.0', the units are nominal line depths in the default font size; increasing the factor tends to increase the number of lines in the left column.

`\LeftColumnBar`

This draws a rule below the left column of the 2-column text which is above the full-width material.

`\RightColumnBar`

This draws a rule above the right column of 2-column text which is below the full-width material.

`\BalanceColumns[0.5]`

This command is used at the end of a file, in order to balance the final page.

The optional argument serves the same purpose and is used in the same way as that for `\begin{FullWidth}`.

Where both equations and text must span two columns, the text portions must *additionally* be enclosed in the following environment:

```
...
\begin{WideText}
    <text material>
\end{WideText}
...
```

The text will then be flush left, and indented 3em from the right margin, as per NRC requirements, while the equation numbers will be flushed to the right (where that is the style). The two combined will look like this:

```
\begin{FullWidth}[0]
\LeftColumnBar
\begin{equation}
    <equation material here>
\end{equation}

\begin{WideText}
    <text material>
\end{WideText}

\begin{equation}
    <equation material here>
\end{equation}
\RightColumnBar
\end{FullWidth}
```

4.5 Mathematics

In addition to default LaTeX commands, the `amsmath` package provides a number of useful enhancements. Consult both the revised chap. 8 of *The LaTeX Companion* and the AMSLaTeX documentation for details (see section 5.1). See also `bm.sty` for enhanced font handling inside math mode (section 3.1).

`\begin{equation} ... \end{equation}`

`\begin{array} ... \end{array}`

`\begin{subequation} ... \end{subequation}`

This is an `amsmath` environment **within which** other environments are used, to achieve lettered sub-equation numbers: e.g., 1.2a, 1.2b, etc. There is a file `subeqn.tex` on most TeX installations with additional details.

In addition to the usual environments, two NRC macros allow further customisation of the form of the equation number:

`\numberby{...}{...}` [an NRC macro]

For articles where equation numbers must include section numbers (e.g., equation 3.2 is the second equation in section 3), input the following in the preamble area, after all `\usepackage` commands:[6]

```
\numberby{equation}{section}
```

The first argument contains what element is being numbered; the second indicates that section numbers should be included in that numbering.

`\eqnoformat` [an NRC macro]

The `nrc2` class default format is for square brackets around equation numbers. Other options (i.e., parentheses) can be achieved via the following definition (placed in the preamble, after all packages have been loaded):

```
\renewcommand{\eqnoformat}[1]{(#1)}
```

4.6 Tables, Figures, Captions

The following float parameters are useful to include in the preamble area:

nrc1
```
\renewcommand{\topfraction}{.95}
\renewcommand{\textfraction}{.05}
\renewcommand{\floatpagefraction}{.95}
```

nrc2
```
\renewcommand{\topfraction}{.95}
\renewcommand{\floatpagefraction}{.95}
\renewcommand{\dbltopfraction}{.95}
\renewcommand{\textfraction}{.05}
\renewcommand{\dblfloatpagefraction}{.95}
```

4.6.1 Tables

`\begin{table} ... \end{table}`

For regular tables, up to same width as text (page-wide or column-wide).

`\begin{table*} ... \end{table*}`

For tables spanning two columns.

`\begin{sidewaystable} ... \end{sidewaystable}`

For rotating a table sideways. To ensure rotation is in correct direction, remember to add the `figuresright` option to the `rotating` package in the Preamble.

`\begin{sidewaystable*} ... \end{sidewaystable*}`

For rotating a table sideways across a 2-column page. As for above, make sure the `figuresright` option has been added to the `rotating` package, loaded in the Preamble.

`\begin{tabular} ... \end{tabular}`

Note: use `\tabcolsep` to slightly reduce/increase intercolumn space.

[6] This avoids having to load the `amsmath` package in order to access the `\numberwithin` command, which does the same thing.

`\hline*` [an NRC macro]

For the thicker lines at top/bottom of tables. Regular 1pt rules accessed via default `\hline` command.

4.6.2 Figures

`\begin{figure} ... \end{figure}`

For regular figures, up to same width as text (page-wide or column-wide).

`\begin{figure*} ... \end{figure*}`

For figures spanning two columns.

4.6.3 Captions

`\topcaption{...}` [an NRC macro]

NRC style has all captions at the top of their table or figure. Syntax is the same as for LaTeX default `\caption`.

Captions will be automatically sized to the width of their table, provided the file is processed at least twice. Should a caption require a different width, the following code, used inside the float environment, will work:

```
\setlength{\captionwidth}{ ... }
\topcaption{ ... }
```

`\sepcaption{...}` [an NRC macro]

For captions separated from their full-column or full-page tables and figures. Caption will appear at top of next column or next page. Usage is **different** from regular caption commands in that it must appear in its own separate `table` environment:

```
\begin{table}
   \sepcaption{.....}
\end{table}

\begin{table}
   <contents of table>
\end{table}
```

4.6.4 Centering

To centre any of these elements inside a float, the `\centering` command is preferred to the `{center}` environment, which adds its own vertical space and hence interferes with NRC spacing requirements.

4.7 Cross-Referencing

As with all cross-referencing codes, process file 2 or even 3 times, to ensure that all citations and labels have been resolved, until the following message no longer appears:[7]

```
LaTeX Warning: Label(s) may have changed.
Rerun to get cross-references right.
```

Components of an article affected by cross-referencing — and thus requiring several processing runs, include the following:

- cross-refs to tables and figures, and to equations, etc. (via `\ref`, `\pageref`, and `\label`)
- automatic sizing of caption widths for floats (via `\topcaption`)
- bibliographies (via `\cite` et al., and `\bibitem`)

To ensure that cross-referencing via the `\label` and `\ref` commands is correctly associated with the matching tables and figures, it is recommended that the `\label` command appear **inside** the closing parentheses of caption commands.

4.8 Bibliography

The default macros `\cite` and `\bibitem` are usually adequate for citations and bibliography entries. Additional flexibility can be had by using the `cite` package; for more complicated requirements, authors may choose to use the `natbib` package. Authors using the latter must remember to submit their `.bib` file, and are reminded to use the referencing style and order of elements appropriate to the journal to which they are submitting.[8]

The main `cite` commands are:

`\cite{...}`

To produce cross-referencing digit or digits inside square brackets.

`\citen{...}`

To produce cross-referencing digit with **no** brackets.

Further options are described in the `cite` documentation. However, one in particular will be noted here, as some NRC journals require in-line citations to appear within parentheses, rather than square brackets. If this is the case, the following code should be added to the preamble (after all packages, including `cite`, have been loaded):

```
\renewcommand{\citeleft}{(}
\renewcommand{\citeright}{)}
```

The references/bibliography section at the end of the paper uses the default LaTeX commands:

```
\begin{thebibliography}{99}
  \bibitem[...]{...}

  \bibitem[...]{...}

\end{thebibliography}
```

[7]Note, however, that if cross-referencing codes are incomplete, [?] will remain. In such cases, the warning message reads: `LaTeX Warning: There were undefined references.`

[8]As yet, there is no `nrc.bst` file for the NRC.

4.9 Appendices

Where only the word 'Appendix' is needed, use the command `\section*{Appendix}` (note that the asterisk suppresses any section numbering, either by digit or letter). If equations within the Appendix are to restart at '1', insert

```
\setcounter{equation}{0}
```

If more than the word 'Appendix' is to appear, then the `\section` command must be augmented by either `\appendix` or `\appendix*`.

The `\appendix` command (unmodified) behaves as in the standard LaTeX classes; so, for 'A. Title of First Appendix', the following code is used:

```
\appendix
\section{Title of First Appendix}
```

For 'Appendix A:' + a heading (and then 'Appendix B:' + its heading, etc.), the following code will do the job (notice that the word 'Appendix' is **not** input):

```
\appendix*
\section{A subheading}
  ...
\section{Next subheading}
```

Both `\appendix` and `\appendix*` preserve `\numberby` commands, as one might expect: equations in appendix A are numbered 'A.1', 'A.2', etc. To ensure numbering is correctly applied throughout all appendices, insert `\numberby` **before** the `\section` command.

5 Resources

The following documentation, newsgroups, and web pages are useful source to consult for help, news, and updates. Keep in mind, however, that conflicts may arise when

5.1 Books and articles

The LaTeX Companion: by Michel Goossens, Frank Mittelbach, and Alexander Samarin (Addison-Wesley, 1994).

Contains many details to assist users. Caveats:

Chapter 8 is no longer valid — a revised version is available in both `.ps` and `.pdf` formats from CTAN.[9]

As well, the sections on graphics and colour have been superseded by material in *The LaTeX Graphics Companion*.

The LaTeX Graphics Companion: Illustrating Documents with TeX and PostScript, by Michel Goossens, Sebastian Rahtz, and Frank Mittelbach (Addison-Wesley, 1997).

Math into LaTeX: An Introduction to LaTeX and AMSLaTeX, by George Grätzer (Birkhäuser, Boston and Springer Verlag, New York, 1996).

First Steps in LaTeX: by George Grätzer (Birkhäuser, Boston, 1999).

The TeXbook: by Donald E. Knuth (Addison-Wesley, 1986).

LaTeX: A Document Preparation System — User's Guide and Reference Manual, by Leslie Lamport (Addison-Wesley, 1994, 2nd ed).

A Guide to LaTeX2ε: by Helmut Kopka and Patrick W. Daly (Addison-Wesley, 1998, 3rd ed).

Michael Downes: "Breaking equations," *TUGboat* 18,3 (Sept 1997): 182–194.

Keith Reckdahl: "Using EPS graphics in LaTeX2ε documents," *TUGboat* 17,1 (March 1996): 43–53.

Keith Reckdahl: "Using EPS graphics in LaTeX2ε documents, Part 2: Floating figures, boxed figures, captions, and math in figures," *TUGboat* 17,3 (Sept. 1996): 288–310.

The latest version of the Reckdahl material can be found on CTAN in `info/epslatex` in both `.ps` and `.pdf` formats.

5.2 Electronic resources

www.tug.org: the most complete stepping-stone to the worldwide TeX community, including the CTAN archives, user groups, news, and so on.

comp.text.tex a general all-purpose newgroup for TeX users. Consult your local technical support group to see if newsgroup access if available via your browser.

FAQ: put together by the UK TeX Users Group; available via the TUG web page.

Listserv lists: there are a great number of specialised lists. Consult the TUG web pages for details.

http://groups.google.com/ holds an archive of usenet discussions, and may be used to review current topics of concern, or to search for answers to specific questions. Unfortunately, the service does **not** offer facilities for posting to usenet, at present.

[9] CTAN = Comprehensive TeX Archive Network; a list of site addresses can be found on the TUG home page `www.tug.org`. Follow the links to `/tex-archive/info/companion-rev`.

6 In-house Coding for Articles

A template file with all the main preamble lines of code already input, is available (see Appendix B). At the top of the new file, insert the contents of:

```
nrc-opening.tex
```

and begin to **un**comment those lines which are pertinent for the file. There are brief notes in the template, indicating the purpose of each macro line, along with cross-references to pages in these guidelines. Delete or leave commented those lines which are not relevant to the file.

Note: Only invoke those packages and/or macros which are present in the file; for example, it is misleading to load a graphics package if there are no figures in the file.

6.1 Changing class option choices

Included in the main class options are some which are intended for authors only; remove any of the following options before processing author files in-house:

```
author   genTeX   type1rest   usecmfonts
```

On the other hand, there are a number of class options related to various stages of in-house production and thus intended only for NRC editorial staff. Below is a list of these options, followed by a brief description of their purpose:

```
\documentclass[<options here>]{<class here>}
                 breakaddress        nrc1
 for nrc2 only:  twocolid         OR nrc2
 for nrc2 only:  twocolid*
                 preprint
                 proof
                 pagnf
                 trimmarks
                 finalverso
```

`breakaddress` This option affects the author IDbox at the bottom of the titlepage. It inserts a linebreak between the author name and address; the default setting has them print on the same line.

`twocolid` For `nrc2` only. This option affects author information (the IDbox at page bottom): the text spans both columns.[10]

`twocolid*` For `nrc2` only. This variation for the IDbox also spans both columns, but the material inside is itself set up in two columns.

`preprint` This affects headers and footers, omitting such items as dates, page numbers, and so on. For any additional text in running heads (e.g., 'Rapid Communication'), use `\shortauthor`.

[10]The default is to set all IDbox material into the bottom of the left column.

`proof` Prints a centred footer on every page with the following text: 'Proof/Épreuve'.

Note: Comment out when DOI line must appear at bottom centre of opening page. See section 6.5.

`pagnf` Prints a centred footer on every page with the following text: 'Pagination not final/Pagination non finale'.

Note: Comment out when DOI line must appear at bottom centre of opening page. See section 6.5.

`trimmarks` Prints cropmarks at all four corners. Note that trimmarks for `nrc2` are off the regular 8.5 × 11-inch paper, but will be visible if oversized paper is used.

`finalverso` Specifies that the paper should end on a recto page (creating a blank, unnumbered page if the text doesn't for itself; the blank page does **not** appear in the paper's page count.

6.2 Additional packages

A number of additional packages are included in the template file `nrc-opening.tex`. Uncomment those packages which will be needed for each specific article.

`\usepackage{color}` The `color` package is used for in-house production of reversed out text (white on black). Ensure that no driver option is specified here, as it would over-ride the in-house printer set-up. See section 6.6 for details.

`\usepackage{dcolumn}` At present, this remains commented out as the NRC's need for left-justified decimal alignment is not possible via `dcolumn`. Left-justified alignment at present is achieved by using the `\llap`, `\rlap`, and `\phantom` commands.

`\usepackage{url}` Inserts line breaks into e-mail and website addresses. The package **and** its additional line of code must be uncommented.

`\usepackage{array}` Allows for raggedright columns in tables. The package **and** its additional line of code must be uncommented.

`\usepackage{cases}` Makes it possible for a left curly brace to span several lines of equations. The package **and** its additional line of code must be uncommented.

personal macros Over time, it may become apparent that some small modifications or shorthands are used in almost all papers. Until such changes are incorporated into the document classes, these should not be inserted into each article file but rather stored in a separate file, loaded via the `\usepackage` command and inserted after all other packages.

6.3 Package to remove

If the user has specified

```
\usepackage[T1]{fontenc}
```

so as to enable French-language hyphenation to work when using CM or restricted Type 1 fonts, the package invocation should be deleted (the NRC classes supply their own `fontenc` invocation).

6.4 Additional macros

Following the loading of all packages and their options, files may contain additional macros from the author (see page 3 for instructions provided to authors). These should be clearly marked off with, for example, a row of `%%` signs both above and below. Keep in mind the potential for author definitions to interfere or over-ride journal macros and specifications; for example, authors may have commands to specify page dimensions, or fonts for sections, or numbering schemes. Where these do not collide with journal requirements, they can probably be safely retained. However, where there is interference, journal definitions take precedence. Ideally, authors will increasingly switch to using the NRC's document classes and reduce the chances of such problems.

6.5 Other additions in the preamble area

Some if not all of the following macros are used by the NRC's in-house production team, and not by the author. They are input in the file after all packages have been loaded, and before the `\begin{document}` statement:

```
\setcounter{page}{<number>}
\journal{<abbrev.>}
\journalcode{<acro>}
\volyear{<vol no.>}[<copyright year>]{<year>}
\filenumber{<file no.>}

\received{<complete date>}
\revreceived{<complete date>}
\accepted{<complete date>}
\revaccepted{<complete date>}
\IDdate or \IDdates{<Addit'nal text + date info>}
\webpub{<complete date>}
\commdate{<complete date>}

\assoced{<name of assoc. ed.>}
\corred{<name of correspond. ed.>}
```

`\setcounter{page}{...}`

Insert starting page number for article. The information will be printed on the titlepage (bottom left) and in the running head; the complete page range will be calculated and inserted automatically when the file is run a second time.

`\journal{...}`

Specific journal abbreviations must be entered via this macro (e.g., `Can. J. Civ. Eng.`). The `\journal` command records the web address that will be used for this paper when it is published on the web; note that the `\journalcode` command may be used as an alternative to `\journal`.

See Appendix A for complete list of journal abbreviations.

`\journalcode{...}`

The argument is the "journal acronym" (see table in Appendix A for a list). This acronym identifies the journal, and the `\journalcode` command uses it to set the journal abbreviation and the web site addresses; note that the `\journal` command may be used as an alternative to `\journalcode`.

`\volyear{...}[...]{...}`

First argument is for the volume number. The second (optional) argument specifies the copyright year; if the argument is not present, the copyright year is assumed to be the same as the production year. The third argument specifies the publication year, which is used in the titlepage footer and in the left running head.

`\filenumber{...}`

Insert the NRC's file number here. The number will be appended to the canned text `10-1139/`, which appears bottom centre of the opening page. If `\filenumber` is missing, the following will be printed: *Zxx-xxx*.

Note: The DOI line prints in the same location as text for the class options `proof` and `pagnf`. Comment these class options out once it becomes necessary to have the DOI line print at bottom centre of the opening page. See section 6.1.

`\filenumber*{...}`

Add an asterisk to the `\filenumber` macro when it is necessary for the filenumber to be prefixed to the page numbers, in addition to appearing in the DOI line.

All page numbers in the headers, and on the opening page at the bottom left will have the filenumber prefixed to them.

Note: The filenumber will **not** be prefixed to any page cross-references (via the `\pageref` macro).

`\received{...}`

Insert date as per journal style — e.g., June 6, 2001 — but without a final period (it is automatically inserted). The word 'Received' (Fr. 'Reçu le') will be automatically generated; however, the date must be input in French (e.g., 6 juin 2001). This text appears in the author IDbox area.

`\revreceived{...}`

Same instructions as for `\received`. The text 'Revision received' (Fr. 'Révision reçue le') will be automatically generated. This text appears in the author IDbox area.

`\accepted{...}`

Same instructions as for `\received`. The word 'Accepted' (Fr. 'Accepté le') will be automatically generated. This text appears in the author IDbox area.

`\revaccepted{...}`

Same instructions as for `\received`. The text 'Revision accepted' (Fr. 'Révision acceptée le') will be automatically generated. This text appears in the author IDbox area.

`\IDdates{...}`

Unlike `\received` and `\accepted`, no canned text or final punctuation is included, allowing the user to insert customised text and/or date information, which appears in the author IDbox area. An alias, `\IDdate`, is also available.

`\webpub{...}`

Insert date of publication at the NRC website as per journal style — e.g., June 6, 2001 — but without a final period (it is automatically inserted). The text will appear in the author IDbox area.

For English-language articles, the text 'Published on the NRC Research Press Web site at `webaddress` on `date`' will be automatically generated. The website address is generated by using either the `\journal` or `\journalcode` macros.

For French-language articles, the text 'Publié sur le site Web des Presses scientifiques du CNRC, à `webaddress`, le `date`' will be automatically generated. Note that the date must be input in French (e.g., 6 juin 2001).

`\commdate{...}`

Insert date as per journal style — e.g., June 6, 2001 — but without a final period (it is automatically inserted). The text 'Written discussion of this article is welcomed and will be received by the Editor until' (Fr. 'Les commentaires sur le contenu de cet article doivent être envoyés au directeur scientifique de la revue avant le') will be automatically generated; however, the date must be input in French (e.g., 6 juin 2001). This text appears in the author IDbox area.

`\assoced{...}`

Insert name of associate editor, without a final period. The text 'Paper handled by Associate Editor' (Fr. 'Production de l'article coordonnée par le directeur scientifique associé') will be automatically generated. This text appears in the author IDbox area.

`\corred{...}`

Insert name of associate editor, without a final period. The text 'Corresponding Editor:' (Fr. 'Directeur scientifique correspondant :') will be automatically generated. This text appears in the author IDbox area.

6.6 Special titleblocks

Some journal material requires a special heading: a solid black stripe with reversed-out white lettering. The white-on-black effect requires the presence of a special package in the preamble area, immediately below the graphics package, in addition to the special title coding:

```
\usepackage{color}
```

Since both the `graphicx` package and `color` share the same option, it is possible to merge them into one line:

```
\usepackage{graphicx,color}
```

Having added the `color` package, the actual special title command will now work. There are two versions of the command:

`\specialtitle`

This allows the regular titleblock (`\title`, etc.) to be included with the special title; for example, a review article with its own title.

```
\begin{document}
\specialtitle{REVIEW/SYNTH\`ESE}
\title{Regular article title}
\author{Someone's name here}
\address{Someplace nice and warm}
   \correspond
\shortauthor{Review/Synth\`ese}
\maketitle
```

`\specialtitle*`

The regular article titleblock cannot be used with this variant; for example, an editorial or other non-article material.

```
\begin{document}
\specialtitle*{EDITORIAL/\'EDITORIAL}
\shortauthor{Editorial/\'Editorial}
\maketitle
```

For non-articles, the headers and footers are changed by using the `\pagestyle{nrcplain}` command. The page numbers will appear at bottom centre, the NRC Canada copyright footer is suppressed, and the running heads are suppressed entirely. For further adjustments to pagination, see 'Miscellaneous adjustments'.

6.7 Translations of abstracts/resumés

The following lines are inserted at the end of each abstract or resumé, before the `\end{...}` statement:

`\translation` generates the text: '[Journal translation]'.

`\traduit` generates the text: '[Traduit par la rédaction]'.

`\Traduit` generates the text: '[Traduit par la Rédaction]'.

Note that author files will only have one: an abstract or a resumé. It is useful to insert a suitable `\vspace` to represent the approximate space the translation would require, so that page breaks will not be unduly affected by the additional text.

6.8 Miscellaneous adjustments

1. Journals requiring more space between lines will need the following command inserted into the preamble area:

   ```
   \easebaselines
   ```

   This command will also adjust the inter-row spacing within tables (value of `\arraystretch` increases to 1.05).

2. For **roman numerals**, with only page numbers in the footers, insert the following lines at the end of the preamble, just above the `\begin{document}` line (notice that, in this example, pagination will begin with roman iii):

   ```
   \pagestyle{nrcplain}
   \pagenumbering{roman}
   \setcounter{page}{3}
   ```

3. To add parentheses (or any other design element) to (roman) page numbers, insert the following just before the `\setcounter{page}{...}` command:

   ```
   \renewcommand\thepage{(\roman{page})}
   ```

4. For full-width text spanning two columns, the default left and right margins can be altered by using the following optional argument to the `{WideText}` environment (recall that the default values are 0em on the left, 3em on the right):

   ```
   \begin{WideText}[<l.margin>][<r.margin>]
     <text here>
   \end{WideText}
   ```

6.9 Two-column bilingual texts

Special coding at both the top of the file and around the bilingual paragraphs is required.

6.9.1 In the preamble

First, load the appropriate package and options. These are added after the `\documentclass` line in the preamble.

1. if main (left column) language is English:

   `\usepackage[french,english]{babel}`

   As English is the default, there is no need to specify it as an option to the document class.

2. if main (left column) language is French, there is an additional option to add to the document class line:

   `\documentclass[french]{nrc1}`

   `\usepackage[english,french]{babel}`

   See sections 2.1 and 3.1, which also discuss the babel package.

6.9.2 In the bilingual text

The next step is to code the English and French texts so that the tops of matching paragraphs align horizontally. One set of codes surrounds the entire bilingual set of paragraphs; another set of codes is put around each matched set of English-French paragraphs.

```
1.  \begin{par-text}[<language>]
2.      \begin{par-para}
3.          ... <English paragraph> ...
4.      \othercol
5.          ... <French paragraph> ...
6.      \end{par-para}
7.
8.      \begin{par-para}
9.          ... <English paragraph> ...
10.     \othercol
11.         ... <French paragraph> ...
12.     \end{par-para}
13. \end{par-text}
```

lines 1, 13: The entire 2-column section of matching paragraphs is set inside a `par-text` environment. This separates the parallel text portion of a file from other elements that may not require such formatting: headings or other text, graphics inclusions, etc. The `par-text` command has one required option (language) and two width options (to change from default values).

line 1: `[<language>]` When the left-column language is English, `[french]` is the right-column 'option'.

When left-column language is French, the right-column language option is `[english]`. **Also required** is the preamble code specified in section 6.9.1, item 2.

line 1: The default column widths, which do **not** need to be specified, are:

	left col	inter-col	right col
`nrc1`	15.5pc	1.5pc	17pc
`nrc2`	20.75pc	1.5pc	20.75pc

To change left-column width and inter-column space (the right column width is calculated, based on these other two dimensions):

```
\begin{par-text}[<lang.>][<dimen1>][<dimen2>]
```

where <dimen1> is the new left column width, and <dimen2> is the new inter-column space. If only the inter-column space, <dimen2>, is to change, <dimen1> must still be inserted, in order for the program to find the 2nd set of square brackets.

lines 2 and 6: matching English/French paragraphs are set inside a par-para environment

lines 3 and 5: the matched sets of paragraphs (which can of course be longer than one line!)

lines 4 and 10: to signal the end of the left-column paragraph and the start of its matching right column paragraph, use \othercol

line 7: to make it easier to read the source file, separate each set of {par-para} with a blank line or a % sign

Note: The default vertical space between lines is set at 1pc ($\approx$ one blank line). To change this at specific points, explicit \vspace{...} commands can be inserted between sets of {par-para}. To change this for the entire file, insert \parallelparsep{<some dimen.>} before {par-text}.

7 Final notes

1. There is no dotless-j available in Adobe PostScript fonts. The only dotless-j appears in math mode — $\jmath$ — which is accessed by $\jmath$.
2. Only English and French hyphenation are currently set up; English is the default, French is invoked by babel, and the class selects French or English hyphenation as necessary, as it goes along (provided the appropriate hyphenation patterns have been installed).

Appendix A

Journal reference grid

Journal name	Journal abbreviation	Journal acronym	English website	French website
Biochemistry and Cell Biology	Biochem. Cell Biol.	bcb	http://bcb.nrc.ca	http://bbc.cnrc.ca
Canadian Geotechnical Journal	Can. Geotech. J.	cgj	http://cgj.nrc.ca	http://rcg.cnrc.ca
Canadian Journal of Botany	Can. J. Bot.	cjb	http://canjbot.nrc.ca	http://revcanbot.cnrc.ca
Canadian Journal of Chemistry	Can. J. Chem.	cjc	http://canjchem.nrc.ca	http://revcanchim.cnrc.ca
Canadian Journal of Civil Engineering	Can. J. Civ. Eng.	cjce	http://cjce.nrc.ca	http://rcgc.cnrc.ca
Canadian Journal of Earth Sciences	Can. J. Earth Sci.	cjes	http://cjes.nrc.ca	http://rcst.cnrc.ca
Canadian Journal of Fisheries and Aquatic Sciences	Can. J. Fish. Aquat. Sci.	cjfas	http://cjfas.nrc.ca	http://jcsha.cnrc.ca
Canadian Journal of Forest Research	Can. J. For. Res.	cjfr	http://cjfr.nrc.ca	http://rcrf.cnrc.ca
Canadian Journal of Microbiology	Can. J. Microbiol.	cjm	http://cjm.nrc.ca	http://rcm.cnrc.ca
Canadian Journal of Physics	Can. J. Phys.	cjp	http://cjp.nrc.ca	http://rcp.cnrc.ca
Canadian Journal of Physiology and Pharmacology	Can. J. Physiol.	cjpp	http://cjpp.nrc.ca	http://rcpp.cnrc.ca
Canadian Journal of Zoology	Can. J. Zool.	cjz	http://cjz.nrc.ca	http://rcz.cnrc.ca
Environmental Reviews	Environ. Rev.	er	http://er.nrc.ca	http://de.cnrc.ca
Genome	Genome	gen	http://genome.nrc.ca	http://genome.cnrc.ca
Journal of Environmental Engineering and Science	J. Environ. Eng. Sci.	jees	http://jees.nrc.ca	http://rgse.cnrc.ca

Appendix B

Canned Preamble: nrc-opening.tex

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%%
%% Typeset by                  , Research Press, NRC
%% Date:
%% NRC, <name of journal>
%%
%%%%%%%%%%%%%%
%%
%% 1. See original preamble material (at bottom of file) for
%%    details on source of current .tex file: conversion
%%    from word-processing program or author-generated TeX
%%    code.
%%
%% 2. This template includes most options and packages used by
%%    all the NRC journals. UNcomment those packages and options
%%    which are REQUIRED.
%%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%


%% 1. Class file (nrc1 or nrc2) + options (see userguide, pp.1-2; p.9):
\documentclass[%% french,        %% use with \usepackage[french]{babel}
               %% leqno,         %% only for nrc1 (default is right eqno)
               %% reqno,         %% only for nrc2 (default is left eqno)
               %% nonumbib,      %% biblio entries without nos.
%
               %% breakaddress,  %% linebreak btwn author(s) + address(es)
               %% twocolid,      %% IDbox spans 2 cols
               %% twocolid*,     %% 2-col IDbox
               %% preprint,      %% removes identifying nos. from headers/footers
               %% proof,         %% `Proof/Epreuve' in footer
               %% pagnf,         %% `Pagination not final/Pagination non finale'
               %% trimmarks,     %% add trimmarks
               %% finalverso,    %% final blank verso NOT included in pagerange
]{nrc2}                          %% choose one: nrc1 or nrc2

%% NOTE: authors may use the following options, which should be
%%       DELETED once the file comes in-house:
%%
%%          usecmfonts    type1rest     genTeX


%% 2. Frequently used packages -- see pp.2-3 of userguide:
%%    a. graphics-related:
%%    \usepackage{graphicx}       %% color not usually needed
%%    \usepackage[figuresright]{rotating} %% for landscape tables

%%    b. math-related:
%%    \usepackage{amsmath}        %% math macros in wide use
%%    \usepackage{amssymb}        %% additional math symbols
%%    \usepackage{dcolumn}        %% decimal alignment for tables
```

```
%%    \usepackage{bm}            %% `bold math' via \bm command

%%    c. for website addresses:
%%    \usepackage{url}           %% inserts linebreaks automatically
%%    \NRCurl{url}

%%    d. biblio-related:
%%    \usepackage{cite}          %% enhances options for \cite commands

%%    e. for English-language papers:
%%    \usepackage[french,english]{babel}

%%    f. for French-language papers:
%%    \usepackage[english,french]{babel}  %% remember to add french as a
                                          %% CLASS option, above
%%    g. for ragged-right tables:
%%    \usepackage{array}
%%    \newcommand{\PreserveBackslash}[1]{\let\temp=\\#1\let\\=\temp}
%%    \let\PBS=\PreserveBackslash

%%    h. for left curly brace to span several lines of equations:
%%    \usepackage{cases}
%%    \expandafter\let\csname numc@left\expandafter\endcsname\csname
%%                 z@\endcsname


%% 3. Resetting float parameters:
%%    a. in nrc1:
%%    \renewcommand{\topfraction}{.95}
%%    \renewcommand{\textfraction}{.05}
%%    \renewcommand{\floatpagefraction}{.95}

%%    b. in nrc2:
%%    \renewcommand{\topfraction}{.95}
%%    \renewcommand{\floatpagefraction}{.95}
%%    \renewcommand{\dbltopfraction}{.95}
%%    \renewcommand{\textfraction}{.05}
%%    \renewcommand{\dblfloatpagefraction}{.95}


%% 4. Resetting journal-specific parameters:
%%    a. eqn nos. with section nos.:
%%    \numberby {equation}{section}
%%    \setcounter{equation}{0}

%%    b. in-line citations to use ( ) instead of default [ ]:
%%   \renewcommand{\citeleft}{(}
%%   \renewcommand{\citeright}{)}

%%    c. for JEES (to expand inter-line spacing; see p.12 of guide):
%%    \easebaselines


%% 5. Miscellaneous macros to always have available:
%%    a. shorthands:
\let\p=\phantom
\let\mc=\multicolumn
```

```
%%    b. struts for vertical spacing above/below rules in tables:
%%%%%%%%%%%%%%%%%  beginning of Claudio Beccari's code:
%% Spacing commands for {tabular} (from TTN 2,3:10 -- Claudio
%%                                                    Beccari):
%% Usage: a. use \T to put space below a line
%%           (e.g., at top of a 'cell' of text)
%%        b. use \B to put space above a line
%%           (e.g., at bottom of a 'cell' of text)
\newcommand\T{\rule{0pt}{2.6ex}}            % = 'top' strut
\newcommand\B{\rule[-1.2ex]{0pt}{0pt}}      % = 'bottom' strut
%%%%%%%%%%%%%%%%%  end of Claudio's code

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%   end of class and package
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%   options, additional macros


%% Journal-specific information for opening page -- pp.9-11 of guide:
%% a. numbers:
\setcounter{page}{1}              %% replace 1 with starting page no.
\volyear{XX}{2001}                %% volume, year of journal
\journal{}                        %% jrnl. abbrev. (see App.A of guide)
\journalcode{}                    %% jrnl. acro    (see App.A of guide)
\filenumber{}                     %% NRC file number
%% \filenumber*{}                 %% prefixes \filenumber to all page nos.
                                  %% NOTE: COMMENT OUT class options
                                  %%             pagnf
                                  %%             proof
                                  %%       once no longer needed


%% b. dates:
\received{}                       %% insert date, no period
\revreceived{}                    %% <same>
\accepted{}                       %% <same>
\revaccepted{}                    %% <same>
%% \IDdates{}                        %% <same>. Use for 'Revised ...' etc.
%% \webpub{}                         %% insert date
%% \commdate{}                       %% <same>


%% c. miscellaneous:
%%   \assoced{}                   %% insert name of Associate ed.
%%   \corred{}                    %% insert name of Corresponding ed.
%%   \dedication{}                %% insert text as neede
%%   \abbreviations{}             %% insert as needed


\begin{document}

%% Reversed titlebar -- see p.11 of userguide:
%% \specialtitle{}      %% for black stripe + text + regular title
%% \specialtitle*{}     %% black stripe + text only
```

```
%% Title, Author(s), Address(es) -- see p.4 of userguide for
%%    various options to save time and keyboarding, esp. where
%%    authors share same address(s).

\title{}

%% Author 1:
\author[J.L. Humar]{John Larry Humar} %% opt. arg. ONLY if IDbox
                                      %% name is diff. from
                                      %% titleblock name
\address{}                            %% address of 1st author


%% Author 2:
\author{M.A. Rahgozar}
\address{}

%% Author 3:
\author{Fred Murray}
\address{}


\shortauthor{Humar, Rahgozar, and Murray} %% for headers

%%%%%%%%
%% This line goes here in nrc1.
%% \maketitle
%%%%%%%%


%% Abstract/Resume area -- see pp.5,12 of userguide:
\begin{abstract}
   Abstract text
%% \keywords{}
%% \translation
\end{abstract}

\begin{resume}
   Texte du resume
%% \motscles{}
%% \Traduit %% or \traduit
\end{resume}

%%%%%%%%
%% This line goes here in nrc2.
%% \maketitle
%%%%%%%%

%%%%%%%%%%%%%%%%%%%%%%   END OF TEMPLATE   %%%%%%%%%%%%%%%%%%%%%%

%% Ch. -- 11 NOV 02
```