

# IntechOpen L<sup>A</sup>T<sub>E</sub>X User Manual

Manuscript Preparation

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## Introduction

IntechOpen has developed an author template to ensure all authors use this template to produce L<sup>A</sup>T<sub>E</sub>X manuscripts that conform to IntechOpen formatting requirement. This document is a manual for the authors to help prepare their manuscript. The document has general guidelines and it describes how various elements should be coded.

### Please note!

This L<sup>A</sup>T<sub>E</sub>X template has been devised so that the output PDF will closely mirror the layout of the final, professionally formatted manuscript. However, be advised that there will be differences between the output PDF created by L<sup>A</sup>T<sub>E</sub>X and the final chapter proof created by professional typesetters.

## IntechOpen L<sup>A</sup>T<sub>E</sub>X Template Files

The template contains the following files with the class file named “IntechOpen-Book.cls”. The current version of the class file is 0.1.

1. Readme.txt
2. User-manual.pdf
3. IntechOpen-Book.pdf (output reference pdf)
4. IntechOpen-Book.cls (LaTeX class file)
5. Source files of Template

## How to Start - Preparing Your Manuscript

It is assumed that you possess basic knowledge in L<sup>A</sup>T<sub>E</sub>X to help you create a properly formatted L<sup>A</sup>T<sub>E</sub>X manuscript. This manual is NOT a guide for general L<sup>A</sup>T<sub>E</sub>X functionalities.



To start, ensure that you have L<sup>A</sup>T<sub>E</sub>X2e version installed on your computer. You are provided with “IntechOpen-Book.cls” which can be installed in your L<sup>A</sup>T<sub>E</sub>X setup. Alternately, keep the same with your manuscript files.

You are given sample tex files, as a template for the manuscript. We would suggest you to use the sample template files to start with your project. Please have a copy of the main tex file “IntechOpen-Book.tex” for your manuscript and start editing as required. The main tex file contains the lines for calling class files, preamble, and the content of a sample chapter. You can add your actual manuscript content in place of this sample content. The standard structure of each element for IntechOpen Manuscript is explained in detail.

## The Main file and the Preamble

As discussed above, the main tex file “IntechOpen-Book.tex” can be taken as a startup file to format your manuscript. The following line calls the IntechOpen template with options in the main tex file:

```
\documentclass[<options>]{IntechOpen-Book}
```

The major options provided in this version of the class file are:

**numbers** Reference citations in numbered styles

**sectrefs** Formats the references as chapter-end list

In addition to the above, all the **natbib** package options can be passed through the class file.

## Your Chapter

The major parts of the Chapter contents are divided into three main elements (frontmatter, body text, and backmatter). Below is a sample of major structure in tex file for your chapter.

```
\documentclass[numbers,sort&compress]{IntechOpen-Book}
\usepackage{amsthm,makeidx}
\graphicspath{{Artworks/}}
\makeindex
\begin{document}
  \begin{frontmatter}
    Chapter opener....
  \end{frontmatter}

  Body text.....

  \begin{backmatter}
    Backmatter text....
  \end{backmatter}
\end{document}
```



# Chapter Opener

All the chapter opening elements are coded inside a wrapper tag `\begin{frontmatter}...\end{frontmatter}`. A typical chapter opener coding is shown below:

```
\begin{frontmatter}
  \chapter{Chapter Title}\label{chap1}

  \author{First Author}
  \author{Second Author}
  \author{Third Author}

  \makechaptertitle
\end{frontmatter}
```

## Section Heads

The template allows six levels of section headings. Coding for different heading levels are as shown below:

```
\section{Head Level 1}
\subsection{Head Level 2}
\subsubsection{Head Level 3}
\paragraph{Head Level 4}
\subparagraph{Head Level 5}
```

## Lists

The normal L<sup>A</sup>T<sub>E</sub>X list coding could be followed: “`enumerate`”, “`itemize`”, and additionally “`unenumerate`” are used to code the ordered and unordered lists. All these environments are allowed with nested lists as well. The “`description`” lists are used for descriptive types of list like Terms and Definitions.

## Figures and Tables

Figures and tables are handled in a standard L<sup>A</sup>T<sub>E</sub>X manner; however, few additional tags like `\FIG{}{}` and `\TBL{}{}{}` are introduced. The captions can also include *title* and *credit/source* text with `\title{}` and `\source{}` commands.

For the figures the `\FIG{image}{caption}` command includes images first and then caption as second argument. If an image does not have a caption, please use the command `\FIG{image}{}`  with an empty group.



```

\begin{figure}[t]
\FIG{\includegraphics{image}}
{\caption{\title{title text.}caption text...\source{Source text.}}
\label{chap1:fig1}}
\end{figure}

```

The `\TBL{caption}{table-body}{table-footnote}` command accepts three arguments: caption first, table body next and then footnotes, if any. If any argument is empty please follow empty groups as `\TBL{}{table-body}{}`. Basically three rules can be given as: `\toprule`, `\midrule`, `\botrule`. Spanned rules or any additional rules are also acceptable.

```

\begin{table}[t]
\TBL{\caption{caption text...}\label{chap1:tab1}}
{\begin{tabular}{@{}l|l|@{}}\toprule
\multicolumn{3}{@{}c@{}}{\TCH{Main Head}}\\
\TCH{Head1} & \TCH{Head2} & \TCH{Head3}\\
\midrule
text & text & text\\
text & text\footnotemark{a} & text\\
text & text & text\\
\botrule
\end{tabular}}{
\begin{tablenotes}
\footnotetext[a]{Table footnote text...}
\footnotetext{\source{Table source text...}}
\end{tablenotes}}
\end{table}

```

## Program Listings

You can have additional packages to prepare computer code for any programming languages in your manuscript. There are many packages available for this purpose (e.g., `verbatim`, `alltt`, `algorithmic`, `algorithm`, `algorithm2e` listings). Some of these packages will automatically break the lines that are very long. If you do not wish so, please make sure that all lines fit within the page width.

## Math

AMS math coding is preferred for displaying math. AMS math provides a complete solution for math typesetting. It also has many helpful tools besides different enhancements for multi-line math display. Please visit the Website <https://www.ctan.org/pkg/amsmath> for details on the standard AMS math codes.



## References

The preferred reference format would be BibT<sub>E</sub>X with numeric style citations, this would recommend Vancouver styles to use with BibT<sub>E</sub>X references.

## Indexing

The method of indexing key terms is similar to the general procedure followed for L<sup>A</sup>T<sub>E</sub>X . Please make sure the package `makeidx.sty` is used and the `\makeindex` in preamble of your main tex file.

## Formatting Guidelines

**Manuscript Files:** Use the template files as a start-up for your manuscript. Avoid multiple tex files (or sub-files) for chapter interior (follow single tex file per chapter)

**Key/Label for Citing Elements:** Each element is normally assigned a label to cite in other parts of your manuscript. For this purpose a label should be given with `\label{...}` command for each numbered element such as sections, equations, figures, and tables. The naming of labels should follow certain standards. Some sample labels are given below:

```
\chapter{...}\label{chap1}           -- chapter title
\section{...}\label{chap1:sec1}      -- section head
\subsection{...}\label{chap1:sbsec1} -- subsection head
\begin{align}\label{chap1:eq1}       -- numbered display math
```

**Math:** For correct rendering of math equation in the final product, the below guidelines will be of great help:

- Include all portions of display math within the math environment.
- Add necessary line breaks for long equations so that they fit within column/text width.
- Avoid breaking inline math equations (e.g.,  $A = B$ , instead use  $A = B$ ).
- Avoid inline math equations inside a display math equation:  
(e.g., `\[a=b\mbox{ where as }b\text{ is zero}\]`,  
instead use `\[a=b\mbox{ where as }b\mbox{ is zero}\]`)
- Use correct tags to render correct accented characters for text and math equations (e.g., `F\orster` instead of `F\ddot{o}\orster`).
- In math mode, use array or matrix instead of tabular coding.



**Figures & Tables:**

- Place figures and tables nearer to the paragraph containing their first citation.
- Tables and figures need to be coded with additional wrapper tag `\TBL{caption}{table}{footnote}` and `\FIG{image}{caption}`, respectively.
- The in-text tables/figures which are not numbered should be coded as non-floating figures/tables.
- Avoid heavy formatting in tables and keep a minimum of 2 table rules (`\toprule` & `\botrule`).
- Table should be in text format and not as an image.
- Images with sub-figures should be provided as a single file.

**References:** Always use BibT<sub>E</sub>X format in references to obtain consistency.

**Macros and Custom Commands:** A light version of macro and custom commands are acceptable. Macros containing conditional processing should be avoided. Multiple levels of macro definitions are also strongly discouraged.

**L<sup>A</sup>T<sub>E</sub>X Manuscript Submission**

While submitting your manuscript, perform the following tasks::

- Bundle all manuscript source files in a single archive. Source files include L<sup>A</sup>T<sub>E</sub>X files, L<sup>A</sup>T<sub>E</sub>X packages, BibT<sub>E</sub>X files, images or any other material that belongs to your manuscript.
- Make sure the final source files compile without errors with `pdflatex` or `latex`. A PDF should be generated from the latest manuscript files and submitted along with the source files.
- Figures should be submitted in one of the following formats: EPS, TIFF, JPG, PDF or PNG.

