

Editor Instructions

This document will help you get up and running with magazine creation. If you're thinking, "What is L^AT_EX?", I have a short intro section at the end of this document!

Overview

1. Write your article
2. Decide if your article needs any subsection headers to break up the text
3. Identify if your article has any of the following:
 - A disclaimer/preamble before the main content
 - Subsection headers
 - A Q&A
 - An author name
 - References
 - Any background images
 - Any special characters, superscripts, or subscripts
4. Read through the instructions below to identify the environment tags you'll need.
5. Add the tags to your document. For example, you may need to surround the author name with `\begin{author-name}` and `\end{author-name}`.
6. If using background images, create an 8.5" x 11" image (.PNG at at least 300 DPI). Please see the Background images section below and the files on Moodle to get an idea of what to submit.

Title

Use the `\section{}` command for article titles.

```
\section{Article title}
```

If you have a dark background image, you may want to change the text color. Use the following code for the title:

```
\section{\color{white} Alice in Wonderland}
```

For example, (it's here, you just can't see it because it's white!)

Columns

This template uses the `multicols` package to enable columns. Right after the article title, insert this code to begin the 3-column layout.

```
\begin{multicols}{3}
```

Entire article content goes here (preamble, main text, author name, references)

```
\end{multicols}
```

Preamble

Some articles require some explanatory text or a disclaimer before the main content. Use the `preamble` environment for this.

```
\begin{preamble}
```

Insert disclaimer text here, an intro, etc...

```
\end{preamble}
```

Drop caps

DROP caps are a fun way to emphasize the first letter of the first word of the article. Use the `\lettrine{}` command to insert a drop cap on the first word of the article. This requires two sets of parentheses. Put the first letter in the first set of brackets, and the rest of the word in the other brackets.

After you add this code, L^AT_EX will put in a drop cap and make the rest of the word in small caps to emphasize it.

`\lettrine{D}{rop}` caps are a fun way to emphasize the first letter...

Section headers

For subsections, use `\subsection{}` (equivalent to Heading 2 in Word) and `\subsubsection{}` (i.e. Heading 3)

Heading 2

[illegible]

1. *Handwritten text (cursive script):*
 The first line contains the words "The first line" in a cursive script.
 The second line contains the words "The second line" in a cursive script.
 The third line contains the words "The third line" in a cursive script.
 The fourth line contains the words "The fourth line" in a cursive script.

Heading 3

we we were were
 were were were
 we were we were
 were we we were
 were were were
 we we we were
 we we were were
 we we were were

unus unus unus
unus unus unus
unus

Handwritten practice lines showing various cursive letter combinations and words.

 $Q\mathcal{E}A$

Q How do you make the “Q” and “A” stand out in a Questions & Answers article?

A Type \Q and then the question. Type \A before the answer. The letters will then have specialized drop-caps to make them stand out nicely.

\Q What happened to Alice?

\A She saw a stressed rabbit.

Background images (updated for BIOL 4211 magazine)

This template uses full-bleed background images to add a heading strip behind the article title (see the forest header in the Alice in Wonderland sample article). I've created a new command called `\InsertBackgroundPicture{}`, which uses `\AddToShipoutPictureBG*` from the *eso-pic* package. This allows you to place a full-size background picture on a specific page. The command accepts one argument, which is the filepath for the image. Please include the following files in your submission. There are sample images on Moodle as well.

- A full-page background image for the first page of the article
 - 8.5 inches by 11 inches
 - a .PNG (at least 300 DPI)
 - uses a photograph that is licensed for use (e.g. look for Creative Commons licenses or public domain licenses)
 - No screenshots
- The original image used to create the header
 - This is so I can readjust the image if the title doesn't fit over it in the final PDF.
- Screenshot of the image license. This will most likely be a short paragraph on the image page stating that it is available for use in other projects. It could also be a creative commons sticker on the image page, or a screenshot of the page stating that all images on the website are available for use.
- Any other photos that you think would make good fillers or backgrounds if there's multiple pages. These can be any size, as long as they are PNG files (at least 300 DPI) and licensed for use in other works (with a screenshot submitted as proof).

File names

All image files from the class will go into the same images folder, so please choose 2-3 keywords that are very specific to your article. Use these as the basis for your image filenames. Here's an example of the files that you might submit:

- "Aldosterone-mechanism-page-1.png"
- "Aldosterone-mechanism-original-header.png"

- “Aldosterone-mechanism-license-proof.png”

Place the following code right after the title. Replace “Aldosterone-mechanism-page-1.png” with your filename. If you’re using more than one image, please add some sort of page indicator like “page-1”, “page-2”, etc. to the filenames so I know where to put them. I’m using two dots at the beginning of the name (../) to specify that LaTeX needs to move up one folder level (relative to this *.Rmd* file) and then into the *Images/* folder.

```
\InsertBackgroundPicture{../Images/Aldosterone-mechanism-page-1.png}
```

Superscripts/subscripts

Use the caret (^) symbol on both sides of the character that will become the superscript. Use the tilde (~) symbol on both sides of the character that will become the subscript.

H~2~0

R^2^

Author names

To insert an author’s name, type in the following code near the end of the article.

```
\begin{author-name}
Lewis Carroll
\end{author-name}
```

The line will automatically stretch to fill the current text container. In the following example, I placed the author environment before `\end{multicols}` to have it only take up one column.

<p> <i> This is a sample text block containing multiple lines of placeholder text. It is used to demonstrate the layout and formatting of the document. </i> </p>	<p> <i> This is a sample text block containing multiple lines of placeholder text. It is used to demonstrate the layout and formatting of the document. </i> </p>	<p> <i> This is a sample text block containing multiple lines of placeholder text. It is used to demonstrate the layout and formatting of the document. </i> </p>
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Lewis Carroll

References

Use the references environment tag.

```
\begin{references}  
Paste in references here...  
\end{references}
```

What is L^AT_EX?

L^AT_EX (pronounced lay-tech) is a free program used to create beautifully typeset documents like books, theses, and newsletters. It is very different than Microsoft Word. Instead of selecting text and clicking on a button to make it bold or *italicized*, you write code like `\textit{}` for italics. There are several advantages to using L^AT_EX.

Beautiful typography

L^AT_EX automatically handles a lot of typesetting details including:

- Kerning - aesthetically pleasing spacing between letters based on their shapes
- Ligatures - new characters for letter combinations like fi and ff, which often crash into each other in Word documents (see Figure 1 for a comparison).
- Text justification without creating white rivers of blank spots
- Consistent styles for section headers, citations, figure captions and numbering, etc.
- and more!

Really, only typography nerds will notice these details. But professional-quality typesetting does have a huge impact on the appearance of the document. Your writing will look neat, elegant, and perfectly arranged with minimal effort.

No manual formatting

You don't need to manually adjust the spacing, figure numbers, or page numbers. Details like this are all specified in the document preamble, and L^AT_EX will handle the rest. This is such an efficient system, because it allows you to focus on the content and not waste time trying to get it to look nice. You won't ever need to manually renumber your table of contents, or figure captions!

Uses Plaintext

Word documents often crash when they get too large or have too many images. Since L^AT_EX uses plaintext files (.txt) and sources images externally, your document stays small and portable. Plain-

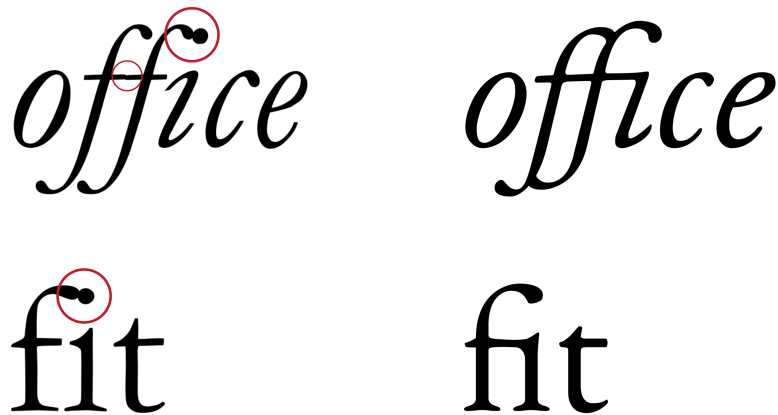


Figure 1: Ligatures are specialized characters that replace letter combinations like *fi*. Left: Word does not automatically include ligatures, so these letters clash. In this Word example, notice the collision between the curve of the *f* and the dot in *i*. The word *office* also has slightly misaligned *f*'s. Disclaimer: I used a Garamond typeface that doesn't have ligatures, which is why the letters look different than the ones on the right. Right: \LaTeX has full support for ligatures. These words showcase the *ffi* and *fi* ligatures.

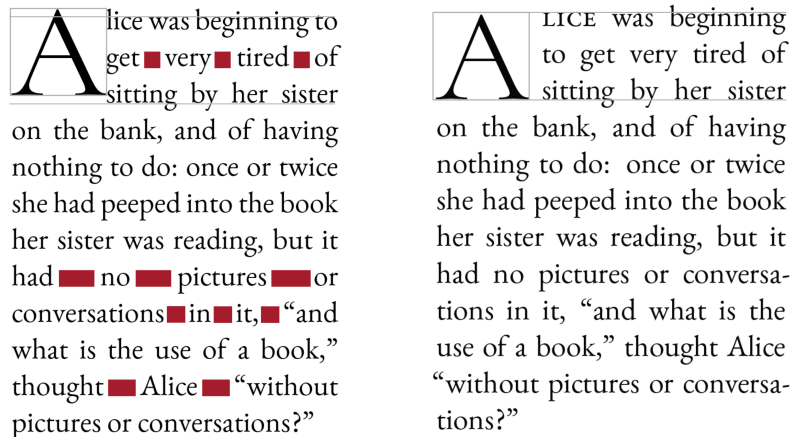


Figure 2: This figure highlights some key differences between typesetting in Word (left) and \LaTeX (right). Notice how Word creates a misaligned drop-cap and awkward justification, with several gaps (highlighted in red). \LaTeX produces neatly aligned text, and it even uses small caps to emphasize the first word.

text files can open on any operating system, and they aren't locked into a specific version or program. You can open decades-old .txt files and they still work. You can easily link your writing to version control software like Git.

Handles large, complex documents well

L^AT_EX makes it easy for you to manage large documents like a thesis or book because it allows for easy cross-referencing of figures, footnotes, quotes, and citations. To add a list of figures, just type `\listoffigures!`

Inserting a new page or image into a lengthy document (typically a harrowing process in Word) is not difficult in L^AT_EX and you have a lot of control over the layout of your sections. It's easy to move things around, and L^AT_EX will automatically re-number all your figures and footnotes.

Mathematics

One of the best features of L^AT_EX is its mathematical typesetting. This includes auto-aligned equations and the ability to add specialized mathematical notation.

$$\int_a^b u \frac{d^2v}{dx^2} dx = u \frac{dv}{dx} \Big|_a^b - \int_a^b \frac{du}{dx} \frac{dv}{dx} dx.$$