

# Beginners' Workshop for Engineering Librarians

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## 1 Introduction

Here is my first sentence in L<sup>A</sup>T<sub>E</sub>X! Here is (not) a new paragraph.

To edit text look you can use `for tiny text` and `normalsize` to go back to normal text. Or without curly braces `for huge text`. Just remember to go back to normal text!

You can also use **for bold** and *or for italics*. For special text characters use `è` or similar depending on the character.

To add website links and other hyperlinked objects, use the [hyperref package](#).

## 2 Floats

### 2.1 Figures

You can add figures with a `begin` command:



Figure 1: NASA's Image of the Day for March 1, 2023

Figure 1 shows Jupiter, Venus and the Moon viewed from the ISS.

Adding lots of figures? Be sure to use the draft compile option too with the dropdown arrow in Overleaf - will create a space for the figure without generating the image.

## 2.2 Tables

You can also add tables with a begin command, but they also have a tabular environment:

Table 1: My test table

A	B
C	D

Added extra vertical and horizontal lines to Table 1. Also see the booktabs package for more line options in tables.

## 2.3 Equations

Equations can be added with dollar signs bracketing the text like this  $E = mc^2$ .

You can also do a numbered equation like with figures and tables:

$$f(r, \phi) = \iint dr d\phi \quad (1)$$

Equation 1 is a demo of a double integral.

## 3 Citations

There are a few different ways to setup citations in L<sup>A</sup>T<sub>E</sub>X, including (order of oldest to newest):

- Built-in citations: BibTeX default
- cite package: adds more options to BibTeX, including sorting numbered lists
- natbib package: standard package that can handle many citation styles, including author-date styles
- biblatex package: uses biber instead of BibTeX to compile citations, lots and lots of options for citations, can handle more complex citation styles and more reference types

It is easy to grab citations from Google Scholar in the correct format, but citation managers do export to BibTeX too. With an Overleaf subscription you can also sync your library (for Zotero and Mendeley), but it does sync your whole library, so exporting can be an easier option if you have 100's of records.

Here's the reference I found in Google Scholar [2]. And you can cite two references at once like this [1, 2].

### 3.1 Citation Manager Differences

Zotero is highly recommended since it has a BibTeX add-on [Better BibTeX](#) that will uniformly set your citation keys / labels that are used when citing in L<sup>A</sup>T<sub>E</sub>X. You can also customize how these are set.

Mendeley is the next best option as it does automatically set the citation keys when exporting to BibTeX. However, be sure to look for stray commas in each BibTeX record as the last element in each record should not have a comma (will throw errors). Also look for special characters or acronyms that might not show up properly (i.e. ä may not be encoded properly) - update them with the correct L<sup>A</sup>T<sub>E</sub>X code or enclose in curly braces to make sure.

EndNote can be the most work to use with L<sup>A</sup>T<sub>E</sub>X as it does not set citation keys automatically and just uses internal numbers. Use the “label” field in each reference to manually input your citation keys or setup your own custom export to make auto citation keys (advanced). It also may have the same issue with special characters as Mendeley, but no stray commas, so some editing may be required.

## 4 Tips & Tools

- Overleaf has lots of tutorials and help, be sure to check those out! Plus [VT's Overleaf page](#) has templates and other info. Also see Overleaf's [Quick Guide](#) and [Keyboard Shortcuts](#).
- [StackExchange](#) and similar sites have lots of Q&A (I use these all the time!)
- For packages and documentation, check out [ctan.org](#) (over 6k - no way to know all and some conflict)
- Last you can check your library for L<sup>A</sup>T<sub>E</sub>X books - there have been lots published, including ones for other types of documents like presentations (Beamer).

### 4.1 Tips & Options Mentioned During Workshop

- Special text like hieroglyphics: see the [heiroglf package](#) or it see the more comprehensive one linked in it's description
- Converting & dealing with references:
  - [text2bib](#) - convert references to BibTeX, even if in a bibliography (good for getting a list into a citation manager)
  - [CiteDrive](#) - mentioned as a good option for BibTeX record management and can integrate with Overleaf
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## References

- [1] Pele Collins, Alexander King, Isaiah Mitchell, Benjamin A Tutt, and Kyle A Starr. Lessons learned during spacex crew dragon main parachute development and testing. In *26th AIAA Aerodynamic Decelerator Systems Technology Conference*, page 2725, 2022.
- [2] Terry D Haws, Jacob Bartkiewicz, and Michael E Fuller. Space launch system (sls): Artemis i, evolution, and capability. In *2022 IEEE Aerospace Conference (AERO)*, pages 1–9. IEEE, 2022.