



STARTING ONLINE: LIBRARY SUPPORT FOR LATEX DURING REMOTE LEARNING

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LATEX

- LaTeX is a typesetting system commonly used in the communication and publication of scientific, mathematical, and technical information.
- Markup language for creating structured documents unlike a word processor
- LaTeX authors can write and compile documents directly on their machine or use an online editor such as Overleaf or Authorea
- Overleaf is the most popular and offers institutional memberships which MSU currently does not have



“LaTeX project logo bird.svg” by [Jonas Jacek](#), CC BY 4.0

BACKGROUND

- Need to offer more specialized instruction to Physics-Astronomy department
- No real support for LaTeX across the University
- MSU Libraries Teaching & Learning Community of Practice (2019-20 academic year)

INSTRUCTIONAL MATERIALS

- [LibGuide](#)
- [Practice LaTeX document](#)
- [Lesson Plan](#)

LaTeX

A basic introduction to writing and managing citations in LaTeX.

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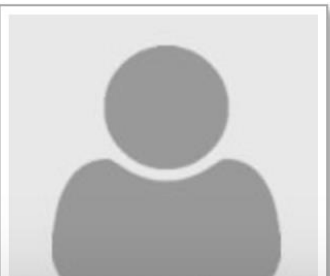
Writing in LaTeX

Managing Citations in LaTeX

Additional Help

LaTeX Templates

Physical Sciences Librarian



Introduction to LaTeX

L^AT_EX

LaTeX is a typesetting system commonly used in the communication and publication of scientific, mathematical, and technical information.

In contrast to word processors, LaTeX allows users to easily write mathematical expressions, cross-reference figures and tables, and structure their document section through markup. However, because the LaTeX environment requires users to write their documents in plain text, there can be a steep learning curve to getting started. This guide covers how to get started creating documents and managing citations in LaTeX.

Getting Started with Overleaf

LaTeX can be run locally on your computer or through an online editor. Both [Overleaf](#) and [Authorea](#) allow you create LaTeX files through their online editors. Both services allow you to link your account to an ORCID profile or you can create an independent account. This guide and the LaTeX workshop were created with Overleaf environment in mind. However, any environment can be used.

- [Register for an Overleaf Account](#)

Once you are logged into Overleaf, you be able to create, edit, and organize your LaTeX documents through the home page. When you are editing a document, it should look like the image below. The left panel allows you to edit you LaTeX code. The right side will display what that compiled code will look like in as a PDF file. To recompile and view your updates at any time, you can either click the "Recompile" button or hit "Command + Enter."

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Basic Commands

Command + Enter	Recompile
%	Comment
\$	Math mode
^	Superscript in math mode

Starting a LaTeX Document

All LaTeX documents start with a preamble. If you open up a new document in Overleaf, it will auto-populate much of this information for you. The preamble allows you to define the type of document, author, date, language, and load in LaTeX packages that you want to use in the document.

```
\documentclass[12pt, letter paper]{article}
\usepackage[utf8]{inputenc}

\title{Practice}
\author{Erika Weir}
\date{November 2019}
```

After we have included a preamble, we can go ahead and start the main text of our document. We can add things like a title, abstract, and table of contents.

```
\maketitle

\begin{abstract}
  This is an introduction to using LaTeX. It will show how to format a paper, insert equations, figures, and tables. LaTeX can also be used to create lab reports, CV's, bibliographies, and other documents.
\end{abstract}

\tableofcontents
```

We can then add sections that will automatically be added to the Table of Contents:

```
\section{Introduction}
```

We can also create lists:

```
\begin{itemize}
  \item llamas
  \item donkeys
  \item goats
\end{itemize}
```

And numbered lists:

images

- main.tex
- references.bib

Source Rich Text

```
1 \documentclass{article}
2 \usepackage[utf8]{inputenc}
3 \usepackage{amsmath}
4 \usepackage{graphicx}
5 \usepackage[table,xcdraw]{xcolor}
6
7 \graphicspath{{images/}}
8
9 \usepackage[backend=biber,
10 style=numeric,
11 citestyle=authoryear]{biblatex}
12
13 \addbibresource{references.bib}
14
15 \title{LaTeX Workshop}
16 \author{Erika Weir}
17 \date{January 2020}
18
19 \begin{document}
20
21 \maketitle
22
23 \begin{abstract}
24   This is an introduction to using LaTeX. It will show how to format a
25   paper, insert equations, figures, and tables. LaTeX can also be used to
26   create lab reports, CV's, bibliographies, and other documents.
27 \end{abstract}
28
29 \tableofcontents
30
31 \section{Introduction}
```

Recompile

LaTeX Workshop

Erika Weir

January 2020

Abstract

This is an introduction to using LaTeX. It will show how to format a paper, insert equations, figures, and tables. LaTeX can also be used to create lab reports, CV's, bibliographies, and other documents.

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1 Introduction

We can also create lists:

- llamas
- donkeys
- goats

And numbered lists:

- oranges
- bananas
- apples

File outline

- Introduction
- Equations
- Figures
- Cross References
- Using BibTeX

TRANSITION TO ONLINE

- Carpentries method of “live coding” lent itself well to the Zoom format
- Practice session with colleagues
- Shortened length (1.5 hours → 1 hour)
- Sacrificed student practice time

RESULTS

- 14 attendees for the first session
- Most were beginner to intermediate users
- The primary skill they wanted to acquire was the ability to write equations

LESSONS LEARNED

- Reflective practice
- More math!
- More advertising and outreach!



QUESTIONS?

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