

L^AT_EX Basics

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WHEN EDITING TEXT, IN THE BACK OF MY MIND I ALWAYS WORRY THAT I'M ADDING INVISIBLE FORMATTING THAT WILL SOMEHOW CAUSE A PROBLEM IN THE DISTANT FUTURE.

Why L^AT_EX?

- ▶ It makes beautiful documents.
- ▶ Most journals have templates to use.
- ▶ It is easier when more than one person are working on the same document.
- ▶ You do not have to use MS Word.

How does it work?

- ▶ You write your document in plain text with commands that describe its structure and meaning.
- ▶ The program processes you text and commands to produce formatted text.

% This is what you write

The rain in Spain falls `\textbf{mainly}` on the plain.

The rain in Spain falls **mainly** on the plain.

Starting a new document

```
% Declare document class & options  
\documentclass[twocolumn]{article}  
  
% Language setting  
\usepackage[english]{babel}
```

Changing settings

% Set page size and margins

```
\usepackage[  
    a4paper,  
    top=2cm,bottom=2cm,  
    left=2cm,right=2cm,  
    marginparwidth=1.75cm  
]{geometry}
```

% Useful packages

```
\usepackage{authblk}  
\usepackage{graphicx}  
\usepackage{float}  
\usepackage{booktabs}  
\usepackage[colorlinks=true]{hyperref}
```

% Change settings

```
\setlength{\columnsep}{1cm}
```

The page title

```
% Document header
\title{Your Paper Title}
\author{Your Name}
\affil{Your Department}
\date{\today}

% Begin document
\begin{document}

% Display the header
\maketitle
```

Your Paper Title

Your Name

Your Department

April 19, 2022

Add abstract

```
% Add abstract
```

```
\begin{abstract}
```

Your introduction goes here! Simply start writing your document and use the Recompile button to view the updated PDF preview. Examples of commonly used commands and features are listed below, to help you get started.

```
\end{abstract}
```

Abstract

Your introduction goes here! Simply start writing your document and use the Recompile button to view the updated PDF preview. Examples of commonly used commands and features are listed below, to help you get started.

Add sections

```
% Add sections
```

```
\section{Introduction}
```

Once you're familiar with the editor, you can find various project setting in the Overleaf menu, accessed via the button in the very top left of the editor. To view tutorials, user guides, and further documentation, please visit our `\href{https://www.overleaf.com/learn}{help library}`.

1 Introduction

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Add sub-sections

% Add section

```
\section{Some examples to get started}
```

% Add subsection

```
\subsection{How to create Sections and Subsections}
```

Simply use the section and subsection commands, as in this example document!

2 Some examples to get started

2.1 How to create Sections and Subsections

Simply use the section and subsection commands, as in this example document!

Add figures

% Reference figure

See Figure `\ref{fig:frog}` below.

% Add figure

```
\begin{figure}[H]
```

```
\centering
```

```
\includegraphics[
```

```
width=0.25\textwidth
```

```
]{image.jpg}
```

```
\caption{This is a cute frog.}
```

```
\label{fig:frog}
```

```
\end{figure}
```

See Figure 1 below.



Figure 1: This is a cute frog.

Add tables

```
% Add table
\begin{table}
\centering
\begin{tabular}{l|r}
\toprule
Item & Quantity \\
\midrule
Widgets & 42 \\
Gadgets & 13 \\
\bottomrule
\end{tabular}
\caption{An example table.}
\label{tab:widgets}
\end{table}
```

Item	Quantity
Widgets	42
Gadgets	13

Table 1: An example table.

Add lists

Automatic numbers:

```
% Add numbers  
\begin{enumerate}  
\item Like this,  
\item and like this.  
\end{enumerate}
```

Or bullet points:

```
% Add bullet points  
\begin{itemize}  
\item Like this,  
\item and like this.  
\end{itemize}
```

Automatic numbers:

1. Like this,
2. and like this.

Or bullet points:

- Like this,
- and like this.

Format text

% Add formats

To make a text appear in `\textbf{bold}` use `\textbf{}`,
in `\textit{italics}` use `\textit{}`,
and `\underline{underlined}` use `\underline{}`.

To make a text appear in **bold** use `\textbf{}`,
in *italics* use `\textit{}`, and underlined use
`\underline{}`.

Add citations

You can simply upload a `.bib` file containing your BibTeX entries, created with a tool such as JabRef. You can then cite entries from it, like this: `\cite{greenwade93}`. Just remember to specify a bibliography style, and the filename of the `.bib`.

```
% Specify style and bib file
\bibliographystyle{unsrt}
\bibliography{references}
```

You can simply upload a `.bib` file containing your BibTeX entries, created with a tool such as JabRef. You can then cite entries from it, like this: `[1]`. Just remember to specify a bibliography style, as well as the filename of the `.bib`.

References

- [1] George D. Greenwade. The Comprehensive Tex Archive Network (CTAN). *TUGBoat*, 14(3):342–351, 1993.

End document

Every document should end with this line

```
% End document  
\end{document}
```


Make pairs (Different labs)

Fold the ducks

Setup

1. Visit www.github.com/MahShaaban/latex_overleaf
2. Download files (Code >> Download ZIP)
3. Create a free Overleaf account (sign up link)

Replicate the document shown on the screen.

All the info you need is in the ZIP and the handouts.

You are allowed to cheat

Your Paper Title

Your Name

Your Department

April 19, 2022

Abstract

Your introduction goes here! Simply start writing your document and use the Recompile button to view the updated PDF preview. Examples of commonly used commands and features are listed below, to help you get started.

1 Introduction

Once you're familiar with the editor, you can find various project setting in the Overleaf menu, accessed via the button in the very top left of the editor. To view tutorials, user guides, and further documentation, please visit our [help library](#).

2 Some examples to get started

2.1 How to create Sections and Subsections

Simply use the section and subsection commands, as in this example document!

2.2 How to include Figures

First upload the image file using the upload icon. Then use the figure environment and the caption command to add a number and a caption.

See Figure 1 below.



Figure 1: This is a cute frog.

Item	Quantity
Widgets	42
Gadgets	13

Table 1: An example table.

2.3 How to add Tables

Use the table and tabular environments for basic tables — see Table 1, for example.

2.4 How to add Lists

Automatic numbers:

1. Like this,
2. and like this.

Or bullet points:

- Like this,
- and like this.

2.5 How to format text

To make a text appear in **bold** use `\textbf{}`, in *italics* use `\textit{}`, and underlined use `\underline{}`.

2.6 How to add Citations and a References List

You can simply upload a .bib file containing your BibTeX entries, created with a tool such as JabRef. You can then cite entries from it, like this: [1]. Just remember to specify a bibliography style, as well as the filename of the .bib.

References

- [1] George D. Greenmade. The Comprehensive TeX Archive Network (CTAN). *TUGBoat*, 14(3):342–351, 1993.

A walk-through the .tex file

Crossword Puzzle

Crossword Puzzle Solutions

Send names and scores to
mahshaaban@gnu.ac.kr