

A Hands-on Introductory Tutorial to L^AT_EX 2_ε

INFORMS Student Chapter Student Talks

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INFORMS

INFORMS

The **Institute for Operations Research and the Management Sciences (INFORMS)** is an international society for professionals in the fields of operations research and management science and business analytics.

- The mission of INFORMS is to lead in the development, dissemination and implementation of knowledge, basic and applied research and technologies in operations research, the management sciences, and related methods of improving operational processes, decision-making, and management.
- <http://www.informs.org/>

INFORMS Student Chapter at OSU

Mission

To serve as a student chapter of the INFORMS at The Ohio State University and to serve as a forum to forge intellectual connections with faculty and professionals and develop personal friendships.

- We organize Happy hours - First Friday of every month
- We organize student talks: Research oriented/tutorials
- Membership: **free!**
- Website: <http://iwse.osu.edu/studentorgs/informs/>
- Find us on LinkedIn:
<http://www.linkedin.com/e/vgh/2942554/>

- **Disclaimer:** I am not an expert! There are however, excellent resources on the web.
- Whenever in doubt - **Google**
- LaTeX (pronounced - “Lay-tech”) is a document preparation system.
- Why use LaTeX?
 - Professional layouts - documents look as if they have been printed
 - Mathematical formulas are beautifully typeset.
 - Free packages allow typesetting virtually everything.
 - Encourages authors to write structured documents.
- Based on the T_EX system developed by Donald Knuth

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Getting Started with L^AT_EX

- I shall focus only on LaTeX based on only Windows platforms.
- What you need:
 - MikTeX - A Windows-based TeX system: Download from:
<http://miktex.org/>
 - Any TeX editor: I shall use TeXnic Center: It is free.
Download from: <http://www.texniccenter.org/>
 - There are other editors that are commercial: e.g. WinEdt -
with more features.
- YouTube video: How to install MikTeX and TeXnic Center:
http://www.youtube.com/watch?v=NeN0j_Ulys8

Basics of L^AT_EX

- LaTeX is like writing code - You write, you compile, you view output.
- In your code (.tex file) one or multiple white spaces are treated as a single space.
- An empty line starts a new paragraph.
- Some special characters are reserved: #, \$, %, &, _, \ and a few more.
- Commands begin with a \.
- Comments can be written using %.

Input Document Structure

TeX document

```
##Preamble##  
\documentclass{article}  
  
#Package Definitions  
\usepackage{graphix}  
...  
#Definitions  
...  
\begin{document}  
\tableofcontents  
  
\section{Introduction}  
...  
\subsection{}  
\begin{equation}  
\end{equation}  
\end{document}
```

Structure

- **Preamble:** Area between documentclass and begin document
- **Packages:** Extensions to LaTeX that allow you to do lots more
- **Environments:** Lists, flushleft, center, abstract, equations etc

Getting our Hands Dirty

- Creating a simple document
- Creating Lists
- Mathematical Formulas
- Tables
- Figures
- Bibliography

LaTeX Resources

- A good starting source: The not too short introduction to LaTeX: <http://www.ctan.org/tex-archive/info/lshort/english/lshort.pdf>
- Wikipedia
- Google (or your favorite search engine)
- OSU Libraries and OhioLINK have e-books on LaTeX

Thank You!

... and Happy T_EXing!